THE

AMERICAN JOURNAL OF PHARMACY.

NOVEMBER, 1867.

MINUTES OF THE FIFTEENTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1867.

The Fifteenth Annual Meeting of the American Pharmaceutical Association commenced its sittings at the University Building, in the city of New York, on Tuesday, Sept. 10th, 1867. First Vice President, Prof. Edward Parrish, of Philadelphia, in the Chair; John M. Maisch, Secretary.

Prof. Parrish read a letter from President Stearns, which stated that it would be impossible for him to attend the meeting, owing to the ill condition of his health.

The Chairman appointed the following Committee on Credentials: Robert J. Brown, Leavenworth, Kansas; M. M. Selfridge, Bethlehem, Pa.; C. Lewis Diehl, Louisville, Ky. The Committee retired to examine the credentials, pending which the members present were requested to register their names.

A communication was received from the Long Island Historical Society, inviting the members of the Association to visit their rooms, and offering the use of their library and reading room to the Association.

On motion of the Business Committee, the Permanent Secretary was requested to return the thanks of the Association to the Long Island Historical Society.

The Committee on Credentials reported the following delegates accredited to this meeting,—viz.:

From the Maine Pharmaceutical Association.—Charles K. Partridge, Henry T. Cummings, M. D., Edmund Dana, Jr., John G. Cook.

From the Massachusetts College of Pharmacy.—Charles A. Tufts, Geo. F. H. Markoe, H. W. Lincoln, Samuel M. Colcord, A. P. Melzar.

From the College of Pharmacy of the City of New York.—James S. Aspinwall, George C. Close, William Neergaard, William Wright, Jr., William Hegeman.

From the Philadelphia College of Pharmacy.—Edward Parrish, James T. Shinn, H. N. Rittenhouse, A. B. Taylor, E. T. Ellis.

From the Maryland College of Pharmacy.—J. B. Baxley, Wm. S. Thompson, J. F. Hancock, J. J. Thomsen, J. C. Leamy.

From the Pharmaceutical Association of the District of Columbia.—G. G. C. Simms, John A. Milburn, J. N. Callan, J. Stanley Jones, Chas. E. Callan.

From the Cincinnati College of Pharmacy.—E. S. Wayne, W. E. Reifsnider, A. M. Johnson, A. Foertmeyer, W. J. M. Gordon.

From the Chicago College of Pharmacy.—E. H. Sargent, Philip L. Millemann, C. Lewis Diehl, John Burrell, Robert J. Brown.

From the Alumni Association of the Philadelphia College of Pharmacy.—Thomas S. Wiegand, C. L. Eberle, Wm. C. Bakes, Henry Bower, W. W. Mullen

On motion, the report was accepted.

On motion of Alfred B. Taylor, it was unanimously

"*Resolved*, To invite the Professors of the College of Pharmacy and of the Medical Colleges of this city, also the medical profession in general, to seats in the present meeting."

The Executive Committee presented the following gentlemen as candidates for membership in the American Pharmaceutical Association, they having complied with the terms of the Constitution:

Chas. K. Partridge, Augusta, Me.
H. H. Hay, Portland, Me.
Luther L. Jenkins, Boston, Mass.
Wm. F. Nowell, " "
Frederick Hoffmann, N. Y. City.
John W Gilmore, "
John McKessonir, "
David Hays, "
Herschel Parker, Brooklyn, N. Y.
Jas. H. Ollif, " "
C. N. Stirling, " "
Ambrose C. Snyder, " "
William Wynn, Brooklyn, N. Y.
Thos. Lewis, " "
Jos. P. Remington, " "
F. C. Mussgiller, " "
Bernard Goodman, Yonkers, N. Y.
John A. Vandegrift, Burlington, N. J.
Jas. M. Harner, Jersey City, N. J.
Wm. R. Laird, " "
W. B. Abell, Philadelphia, Pa.
Louis J. Bauer, " "
Henry Cramer, " "

Augustus Everhart, Philada., Pa.
Decatur Milligan, " "
Wm. H. Webb, M.D., " "
Thos. J. Casper, M.D., " "
John Heyl Raser, Reading, "
P. M. Ziegler, " "
M. C. Morgan, Pittsburg, "
Danl. B. Street, Centreville, Md.
Danl. P. Hickling, Washington, D.C
R. B. Ferguson, " "
R. S. Drake, Piqua, O.
Jas. C. Meseroll, Jackson, Mich.
Jas. W. Backus, Marine City, Mich.
Alf. A. Dunk, East Saginaw, "
John H. Ehlers, Auburn, Ind.
J. C. Boreherdt, Chicago, Ill.
J. W. Ehrman, " "
W. Austin Joyce, " "
Chas. K. Jones, Louisville, Ky.
E. T. Porter, Junction City, Kansas.
Jacob Krummeck, Santa Fe, New Mexico.
F. C. Herbruger, Panama, Central America.
Henry R. Gray, Montreal, Canada.
Nathan Mercer, " "
Thomas Lawrence, Hamilton, Canada.
Geo. W. Morgan, Jr., St. Thomas, Canada.

A ballot being ordered, the Chairman appointed Ferris Bringhurst, of Wilmington, Del., and Thomas H. Barr, of Terre Haute, Ind., to act as tellers; who reported their unanimous election.

The roll of members was then called, and those present recorded.

The standing and special committees being called upon to report, the following were read by title, and laid on the table for future action,—viz.:

Reports of the Executive Committee and Permanent Secretary;

Report of the Committee on the Progress of Pharmacy;

Report of the Committee on the Drug Market;

Report of the Committee on Scientific Queries;

Report of the Committee on the Internal Revenue Law;

Report of the Delegates to the International Pharmaceutical Congress, held at Paris, Aug. 21, 1867.

The reading of the report of the Executive Committee was postponed until the beginning of the second session.

The Chairman, Prof. Parrish, presented to the meeting the following works, which had just been received,—viz.: Proceedings of the British Pharmaceutical Conference; Exhibition of objects relating to Pharmacy, held at Nottingham, 1866; Pharmaceutical Ethics, by Joseph Ince. The Permanent Secretary presented, from the author, Dr. Flückiger, President of the

Swiss Apothecaries' Association, Lehrbuch der Pharmakognosie des Pflanzenreiches (Pharmacognosy of the Vegetable Kingdom).

The appointment of a Nominating Committee being in order, the following members were appointed to that duty:

New York College,	George C. Close.
Maine Pharmaceutical Association,	Charles K. Partridge.
Massachusetts College,	H. W. Lincoln.
Philadelphia College,	A. B. Taylor.
Maryland College,	J. C. Leamy.
Pharm. Assoc. Dist. of Columbia,	James N. Callan.
Cincinnati College,	W. J. M. Gordon.
Chicago College,	E. H. Sargent.
Alumni Assoc. Phil. Coll. Pharm.,	Thos. S. Wiegand.
By the President, from the meeting at large.	Chas. H. Dalrymple, N. J., W. H. Saunders, London, C. W., P. C. Candidus, Aberdeen, Miss.

The Chairman of the Business Committee gave notice relative to proposed changes in Article II., Sections 4 and 8 of the Constitution, having in view the improvement of the financial condition of the Association. The proposition, under the rules, lies over until a future sitting.

Dr. Squibb moved that when the meeting adjourned, it be till 9 o'clock to-morrow morning, which was carried.

Vice-President Parrish now read the Annual Address of the President.

TO THE AMERICAN PHARMACEUTICAL ASSOCIATION:

Gentlemen.—It is my pleasant duty, at this our fifteenth annual reunion, to offer you a word or two which custom and propriety shapes into an address from your chief retiring officer.

I recall, with mingled sentiments of wonder and gratitude, the interval which has elapsed since we last met in this city, and in this very hall. Wonder at the magnitude of the struggle which has engaged us as a people during that interval, gratitude for the result of that struggle, in uniting more firmly those elements of true national strength calculated to make ours a strong and enduring republican nationality.

In 1860, the year of our last meeting here, we were, as we now are, at peace; then fraternizing with us were valued members from the Carolinas to Texas. Who of us have seen them since? To day I hope to

grasp their hands once more, with double welcome, and a cordial sympathy, at least, in all earnest desire to promote the good of our chosen art.

Death has been busy in our ranks since 1860,—so much so, that the gain in numbers of members from this State, since, is not equal to the loss thereby. From the proper Committee you will learn of those who have left us since last we met. It is only proper for me to here bear respectful testimony to the untiring activity and courtesy of John Meakim, in executing the arrangements, social and otherwise, at that session of 1860.

The enlarged sphere of action naturally assumed by this Association since its inception,—as all questions relating to our art, in national polity, and affecting our interests nationally, of necessity fall into our hands for discussion and fostering care or development,—it is evident that the objects and duties of this Association must bear, henceforth, the same relation to the local Associations, and to the individual pharmaceutist, as does the general government to the local government and to the citizen.

Take the subject of internal revenue, wherein, aside from the tariff on foreign goods, the necessity of the time calls for a levying of specific and stamp taxes upon the various products of national industry; it becomes the manifest duty of this Association,—the only national representative of our art,—to use its influence and knowledge to place before the proper authority with whom lies the tax-placing power, such facts, statistics, and knowledge, as will tend to render our portion of the public burthen just and equitable.

At the meeting in Detroit, 1866, a Committee on Internal Revenue (the forerunner of a permanent one, it is to be hoped) was appointed to consider and act upon the whole subject of the internal revenue law. The appointment of such a committee was judicious, but unfortunately it was directed that your President should act as chairman of the Committee. Now as committee work is usually done by the chairman, and as the chairman in this instance resided far from the commercial and government centres, it was as good as an effectual shelving of the Committee. Your President, after appointing the members of the committee as required, resigned the chairmanship to one of them,—Mr. Parrish,—from whom I presume you may expect a report.

My suggestion is, in regard to the working machinery on this revenue business, the appointment of a committee, with the chairmanship at least continued or permanent; the chairman a resident of either Washington, Philadelphia, New York city or Boston; and the raising of sufficient special revenue to meet inevitable expenses attending the work of such a committee.

The above naturally leads me to the subject of our treasury and income. The report of the Treasurer of the Association will show you that the Association is in debt, and for years it has had to anticipate the resources of the future to cancel the obligations of the past. This is not as it

should be; aside from the obloquy it casts upon us as individual members of the Association, it seriously embarasses its officers and representative committees; and I wish distinctly to impress upon you that I believe our financial condition, and the settling of the question of fees and dues from members, to be the most important and vital subject for consideration and settlement before you at this meeting. Our independence, success, influence and dignity depend upon a treasury amply and promptly supplied with means to cancel its obligations, and extend its influence for good. You will remember the embarrassments arising from an empty treasury rest personally only on your permanent officials, and it is not just to them that, with hard work and no considerable pay, they should be placed in any such anomalous position. Moreover, if the Association expects to extend and make available its influence in correcting any abuses we as a craft may labor under, the result of unequal taxation, it must consent to tax itself freely in money. The duties of the Treasurer and Permanent Secretary, and of future possible permanent officers, are and will be so arduous, that no members can afford to accept them, requiring as they do such sacrifices of time and labor, without an approach to adequate pay.

Your Executive Committee, I believe, are prepared in their report with several plans with a view of increasing the revenue. My own idea is that we begin a yearly income of not less than $3000, and as near $5000 as may be, to be raised by increasing the yearly dues to $5.00, the entry fee to $5.00, and the certificate $5.00 or $10.00; the payment of the debt now uncancelled to be raised by subscription among those most active members who have the welfare of the Association at heart.

I favor the repeal of Section eight, Article second of the Constitution, relating to ten-year members.

While the Permanent Secretary has a very small remuneration, the Treasurer has none, save traveling expenses. The labor of this office is constantly growing, and is performed now only at the almost entire sacrifice of the leisure of the occupant. It is desirable that the office could remain in the hands of the same member year after year, for obvious reasons; yet you will soon find no competent member willing to undertake the labor for nothing but the honor thereof.

From the report of the Permanent Secretary you will learn, among other interesting matter, that your executive officers delegated representatives of the Association to attend the session of the Congress of European pharmaceutists in Paris, in August, and it is hoped we shall have them returned to us in time to report in person the results of that Congress.

You will find the report of the Committee on the Progress of Pharmacy fully as extended and elaborate as have characterized former ones. The reporter of that Committee has taken much pains to avoid simple reference to subjects, in most cases having concisely given the most im-

portant information relating to those quoted. This, while there are less subjects referred to, renders it more valuable, and extends its length to about the length of that of last year.

The chairman of this Committee, and his predecessor, both suggest that this committee be made permanent. This I am not prepared to favor, on account of the fact that the investigation of scientific subjects, and committee work like that on the progress of pharmacy, brings with it to the worker such a benefit of instruction, gratification and honor (when honorably done), as to fully compensate the member concerned, and that such labor should annually be re-distributed to others.

You will find the report of the Committee on the Drug Market replete with details of the foreign imports of our country, their values, articles rejected and reasons for rejection, together with such other collateral information, calculated to afford value to the report!

I would further suggest that a committee of not less than five members be appointed to arrange and present an exhaustive report on the articles exhibited by members of the Association and others, which exhibition is unusually full this year.

In closing this message, I have only to add that I have indicated those points of interest most vital to our continuance as a society; to your harmonious deliberations I now entrust them, and, in retiring from my position, I tender you my thanks for the honors this position has conferred, and the hearty assurance of my desire to coöperate with you in all efforts to further our professional interests and welfare.

FREDERICK STEARNS.

On motion, the address was referred to the Business Committee, so that the suggestions it contained may be brought forward for subsequent action.

On motion, then adjourned.

Second Session.— Wednesday, Sept. 11th.

Vice-President Edward Parrish called the meeting to order at 9½ o'clock, A. M. The Secretary read the minutes of the first session, which were adopted.

The Report of the Executive Committee was now read by Thomas S. Wiegand, Chairman, followed by the supplementary Report of the Permanent Secretary, Professor Maisch; both of which were accepted.

[These Reports inform the Association that the Proceedings for 1866 were issued in January of the present year,—six weeks earlier than the preceding volume,—and that the delay was partially due to an empty treasury. The cost of publishing

the 14th volume has been $1160. As the election of members in the interim has been abolished, no endeavors have been made to extend the membership. Death has removed nine of the members during the past year, so far as the Committee are informed,—viz.: James H. Anderson, M. D., and Henry King, of New York city; James B. Lane, of Fitchburg, Mass.; Wm. B. Little, formerly of Boston; Thomas Farrington, of Boston; James L. Polhemus, of Sacramento, Cal.; Jesse M. Sands, of New York; Thomas A. Sweetser, of South Danvers, Mass.; and H. A. Scully, of Pittsburg, Pa.

The Report of the Permanent Secretary relates chiefly to the Proceedings, the expenses of the distribution of which amounted to more than one hundred and fifty dollars. There were three resignations of membership, and thirty-one dropped from the roll on account of delinquency in payment of dues.]

The Treasurer, Charles A. Tufts, now read his annual report and statement [from which we learn that the receipts during the past year from all sources, including the balance on hand at last report, amounts to $2013.99, and the disbursements during the same period amount to $1590.60, leaving a balance in the treasury of $423.39 to meet the current expenses of the ensuing year. The Treasurer urges the necessity of prompt and efficient action in raising a larger revenue, so that the officers of the Association shall be able to conduct the labors of publication in a prompt and honorable manner].

The Report was referred to Henry Haviland, of New York, J. Faris Moore, of Baltimore, and A. P. Melzar, of Boston, to be audited.

The Nominating Committee presented a report, containing the following nominations of officers for the ensuing year:

For President,

Dr. E. R. SQUIBB, ... Brooklyn, N. Y.

For Vice-Presidents,

1st. ROBERT J. BROWN, . . . Leavenworth, Kansas.
2d. WILLIAM A. JENNINGS, . . Baltimore, Md.
3d. DANIEL HENCHMAN, . . . Boston, Mass.

For Treasurer,

CHARLES A. TUFTS, ... Dover, N. H.

For Permanent Secretary,

PROF. JOHN M. MAISCH, . . . Philadelphia, Pa.

Executive Committee,

THOMAS S. WIEGAND, Chairman, . Philadelphia, Pa.
JAMES W. MILL, ... Chicago, Ill.
WILLIAM WRIGHT, Jr., . . . New York.
W. J. M. GORDON, ... Cincinnati, O.
Prof. JOHN M. MAISCH, ex officio, . Philadelphia, Pa.

Committee on the Progress of Pharmacy,

C. LEWIS DIEHL, Chairman, . . Louisville, Ky.
N. GRAY BARTLETT, ... Keokuk, Iowa.
G. F. H. MARKOE, ... Boston, Mass.
Prof. P. W. BEDFORD, . . . New York.
Local Secretary., ex officio.

Committee on the Drug Market,

DANIEL C. ROBBINS, Chairman, . New York.
JAMES T. SHINN, ... Philadelphia, Pa.
HENRY W. FULLER, ... Chicago, Ill.
J. JACOB THOMSEN, ... Baltimore, Md.
SAMUEL M. COLCORD, . . . Boston, Mass.

Committee on Scientific Queries,

Prof. W. PROCTER, Jr., Chairman, . Philadelphia, Pa.
Prof. EDWARD PARRISH, . . . Philadelphia, Pa.
G. G. C. SIMMS, ... Washington, D. C.

Business Committee,

ALERED B. TAYLOR, Chairman, . . Philadelphia, Pa.
JAMES T. KING, ... Middletown, N. Y.
GEORGE C. CLOSE, ... Brooklyn, N. Y.

Pending the consideration of the motion of acceptance of the Report, Dr. Squibb stated that Prof. Procter, who had not yet returned from Europe, in a letter addressed to him had expressed the desire of being relieved for the present year from all services on committees. In regard to himself, he felt constrained for various reasons to decline the nomination for President.

The Nominating Committee then withdrew their Report, and returned it with the following alterations:

For President,

JOHN MILHAU, ... New York City.

Committee on Scientific Queries,

Prof. E. PARRISH, Chairman, . . Philadelphia, Pa.
G. G. C. Simms, ... Washington, D. C.
Prof. J. M. MAISCH, ... Philadelphia, Pa.

Business Committee,

Dr. E. R. SQUIBB, Chairman, . . Brooklyn, N. Y.
JAMES T. KING, ... Middletown, N. Y.
GEO. C. CLOSE, ... Brooklyn, N. Y.

On motion, the Report was accepted as amended.

Pending a motion to proceed to ballot for President, an amendment was offered by T. A. Lancaster, of Philadelphia, to ballot for all the officers at once, which was lost, and the original motion adopted.

The Chair appointed J. J. Thomsen, of Baltimore, and W. J. M. Gordon, of Cincinnati, O., tellers, who reported the unanimous election of John Milhau, of New York, as President for the ensuing year.

During the action of the tellers, the Business Committee gave the usual notice for a proposed alteration in Article II., Section 1st of the Constitution, contemplating the eligibility of Professors of Pharmacy, Materia Medica, Botany and Chemistry for membership in the Association; which lies over for action at a future session.

It was then moved and carried unanimously that the Chair be directed to deposit an affirmative vote for the remaining officers mentioned in the report, after which the tellers reported their unanimous election to serve the ensuing year.

The Chair appointed Henry T. Kiersted, of New York, and Dr. E. R. Squibb, a committee to conduct the President elect to the chair. Whilst this duty was attended to, the members arose, and listened standing to the remarks of President Milhau, and to the words of welcome to New York, extended by him to the visiting members.

The Business Committee moved the thanks of the Association to the retiring President, Frederick Stearns, and the other officers of the past year, for the efficient performance of their respective duties; which was carried unanimously.

The Report of the Committee on the Progress of Pharmacy being called for, the Chairman, C. Lewis Diehl, read extracts from it, and explained its general arrangement, which is similar to those of preceding years. The Report was on motion accepted, and referred to the Executive Committee for publication.

The Chairman, Wm. A. Brewer, read the Report of the Committee on the Drug Market, followed by a supplementary Report by Samuel M. Colcord. Both papers were accepted, and referred for publication.

A discussion occurred regarding the adulterations noticed during the past year, namely, spurious assafœtida and myrrh, adulterated volatile oils, cream of tartar, and other drugs and commodities; also on government sales of highly adulterated drugs which had been captured during the late war.

The Chairman of the Business Committee read a communication from Messrs. Perkins, Stern & Co., importers of California wines, inviting the Association to visit their establishment.

The reading of the Report on Queries was deferred.

Prof. Edward Parrish read the report of the Committee on the Internal Revenue Law, of which President Stearns was Chairman, which was accepted and referred for publication. A spirited discussion ensued on the burden imposed on legitimate pharmacy by the high tax on alcohol, and on the frauds perpetrated on the government in the collection of this tax; suggestions were advanced showing how relief may be obtained.

The Chairman of the Business Committee stated that at least one member who had been deprived of the benefits of the Association during the late war had not received the circulars issued by the Secretary; he therefore moved that to all such members the provisions of the resolution in regard to them, passed at the fourth session of the fourteenth annual meeting, at Detroit, be extended, so as to give them time until

the close of the present meeting to perfect their membership. The motion was carried unanimously.

On motion, the Association adjourned until 3 o'clock, P. M.

Third Session.— Wednesday afternoon.

President John Milhau in the Chair.

The reading of the minutes was dispensed with.

The Secretary read the report of Messrs. Procter and Faber, delegates of this Association to the International Pharmaceutical Congress, which had been held at Paris, August 21st to 24th. The report was accepted, and referred for publication. Regarding the death of M. Guibourt, which is mentioned in the report, Prof. Parrish remarked that the members of this Association, on learning through our delegates to the late Pharmaceutical Congress at Paris of the death, during the sessions of that body, of that eminent savant M. Guibourt, the veteran pharmacologist, are impressed with profound regret at the loss of one so closely connected with the progress of our profession, and to whom pharmacists throughout the world are so largely indebted.

The Executive Committee brought forward the following names for membership:

Chas. H. Bassett, Boston, Mass.
Chas. I. Eaton, " "
Wm. B. Tower, " "
Thos. J. Connor, " "
Chas. B. R. Hazeltine, Boston, Mass.
Geo. P. Kettell, Charlestown, "
Geo. A. Stuart, M.D., " "
Wm. Warren, Brighton, "
Augustus Goecke, New York City.
John A. Dunn, Brooklyn, N. Y.
Emil Heydenreich, " "
Alfred I. Tartiss, " "
S. T. Jones, Philadelphia, Pa.
H. C. Archibald, Philadelphia, Pa.
I. W. Smith, " "
Jas. T. Borhek, Jr., Bethlehem, "
Wm. S. Sieger, South Bethlehem, "
Richard Frohwein, Elizabethport, N. J.
John M. Cunningham, Wilmington, Del.
John Dixon, Wilmington, Del.
Chas. Shoemaker, Wilmington, Del.
Edw. McInall, Jr., " "
Benj. Shoemaker, Jr., " "
John H. Simms, M.D., " "
Charles E. Ferris, M.D., Newcastle Del.
M. H. Donavin, Baltimore, Md.
Geo. F. Danattel, " "
C. A. Lampanius, " "
Chas. S. Tilyard, " "
Charles Cons. Callan, Washington, D. C.
Wm. P. Geiger, Canton, O.
W. P. H. Barr, Alliance, O.
Geo. B. McPherson, Cincinnati, O.

On motion, a ballot was ordered, Messrs. Frohrein and Green acting as tellers, who reported the unanimous election of the candidates.

The amendment to the Constitution, notice of which was given at the first session, and which contemplates the establishment of the finances of the Association on a sound basis, was called up, pending the consideration of which Prof. Maisch offered the following, seconded by Prof. Parrish:

Resolved, That the subject of the financial affairs of this Association be referred to a committee consisting of the Treasurer, the ex-Treasurers present at this meeting, the Chairmen of the Business Committee and of the Executive Committee, to report at a future session.

The vote being taken, a division was called for, when 18 votes were cast in the affirmative, and 14 in the negative, and the resolution carried.

The following amendment to the Constitution, notice of which was given at the second meeting, was brought forward:

Whereas, The Constitution now contains no provision for the membership of those teachers of pharmacy and chemistry who, as lecturers in the various colleges of pharmacy, or as teachers in any other way, have a close interest in the objects and designs of the Association, therefore,

Resolved, That Article II. Section 1 be amended by adding after the word "another" the words "and those teachers of pharmacy, chemistry and botany who may be specially interested in pharmacy and materia medica." The section will then read as follows:

SECTION 1. Every pharmaceutist and druggist of good moral and professional standing, whether in business on his own account, retired from business, or employed by another, and those teachers of pharmacy, chemistry, and botany, who may be specially interested in pharmacy and materia medica, who, after duly considering the objects of the Association and the obligations of the Constitution, are willing to subscribe to them, are eligible to membership.

On motion, the resolution was adopted without dissent.

Prof. Parrish read the report of the Committee on Queries, the consideration of which was postponed for the present.

The Auditing Committee reported that they had examined the Treasurer's accounts, and found them correct. The report was adopted and the Committee discharged.

The reading of special reports being called up, the subjects

of the following queries of last year were continued to the members who had accepted them:—No. 1, to George C. Close, of Brooklyn; Nos. 3, 23, to Samuel P. Duffield, of Detroit; No. 5, to Dr. E. R. Squibb, of Brooklyn; No. 7, to Ferris Bringhurst, of Wilmington, Del.; Nos. 14, 19, 30 and 36 to W. Procter, Jr.; 29 to Edward C. Jones, of Philadelphia; 32 to Dr. Thos. E. Jenkins, of Louisville.

The reading of reports in answer to queries 2, 6, 9, 13, 17, 20, 21, 22, 26, 33 and 35 was postponed. No reply was received in answer to queries 10, 11, 12, 18, 24, 25, 27, 28, 31, 34, 38, 41 and 42.

In answer to query 4, on the adaptability for medicinal purposes of dry wine made from grapes grown in the United States, Prof. Parrish, by request of Frederick Stearns, of Detroit, made some verbal remarks, to the effect that no native wine possessed sufficient alcoholic strength, and for this reason no native wine would answer the purpose, unless the addition of spirit was considered admissable.

A discussion on the culture of wine on the American continent engaged several of the members.

A motion to adjourn to hold an evening session was negatived.

An extract of a letter from Mr. Stearns was read by the Secretary, informing the Association of the manufacture of alcohol in Michigan from rhubarb wine, which by legal decision escaped the payment of internal revenue tax.

Mr. Colby, of New York, read an answer to No. 8, on honey, which was referred to the Executive Committee.

A paper by Charles Bullock, of Philadelphia, was read by Mr. Wiegand, in reply to No. 15, on Veratrum Viride, and referred for publication.

The President retiring, in the absence of the Vice-Presidents Charles A. Tufts was called to the Chair.

The Secretary read a paper in answer to query 37, on the presence of chrysophanic acid in senna, from Ferd. Sennewald, of St. Louis; also an answer to No. 16, by James W. Mill, on preparations of ergot, both of which were referred to the Executive Committee.

The Association then adjourned till 9 o'clock to-morrow morning.

Fourth Session.—Thursday morning, Sept. 12th.

The meeting was called to order at 10 o'clock by President Milhau, and the Secretary read the minutes of the second and third sessions, which, after correction, were adopted.

Alfred B. Taylor, on behalf of the Philadelphia College of Pharmacy, invited the American Pharmaceutical Association to hold its next annual meeting in the city of Philadelphia.

The Chairman of the Executive Committee presented the names of the following gentlemen for membership, they having complied with the requirements of the Constitution.

Jas. L. Scofield,	New York City.	G. A. Zausinger,	Louisville, Ky.
Henry Kimmel,	" "	Ferd. J. Pfingst,	" "
E. T. Dobbins.	Philadelphia, Pa.	F. Sacksteder,	" "
John R. Angney,	" "	J. F. Llewellyn,	" "
C. Rademacher,	Louisville, Ky.	Norman Fletcher,	" "
J. M. Krim,	" "	Fr. Weiss,	Jeffersonville, Ind.
J. M. Colgan,	" "		

Messrs. Neergaard and Haviland acting as tellers, reported the unanimous election of the candidates.

The Committee appointed at the third session to report a plan for regulating the financial affairs of the Association, reported through Dr. Squibb, 1st, the plan proposed by the Business Committee at the first session, upon the main features of which the Committee had agreed unanimously; and, 2d, the retaining in the Constitution of the clause regarding life membership, but altering the conditions for obtaining the same.

It was now moved by Robert J. Brown, and seconded by Alfred B. Taylor, to abolish life membership for the future; after considerable discussion the vote was taken, when 45 members voted in the affirmative and 7 in the negative. The resolution was declared carried, more than three-fourths of the members voting for it.

It was then moved and seconded to increase the annual subscription to three dollars; the vote standing 54 ayes, the resolution was declared adopted, no votes being cast against it.

It was then moved to increase the fee for a certificate of

membership hereafter to five dollars, which motion was carried by a vote of 51 in favor, without any dissenting votes.

It was then moved that the certificate of membership shall require the signature of but one Vice-President, and that the Treasurer should sign it, both of which were adopted. The report of the committee as a whole was then adopted.

William A. Brewer, of New York, offered the following resolution, which, in compliance with his request, was for the present laid upon the table:

Resolved, That while we hold to a high appreciation of the beneficial influence of the accustomed social entertainments tendered to the members of this Association and their friends by the members of the drug trade in the various cities where the Association meets from time to time, and while we cherish with gratitude and thankfulness the good feeling which prompts these magnificent exhibitions of generosity, we cannot but hope that hereafter the solicitors of the contributions for such purposes may get permission from the donors to devote a moiety of said contributions to the endowment of a central library and a cabinet of materia medica and collateral matters, for the purposes and use of the Association.

A paper by Thomas Doliber, on the use of benzoin in ointments, which is supplementary to his paper on benzoinated lard, published in the Proceedings of 1866, was read by Dr. Squibb. This paper elicited considerable discussion, during which Ferris Bringhurst, of Wilmington, Del., spoke favorably of the preservative influence of yellow wax in ointments.

The Secretary read the following papers by Edw. S. Wayne, of Cincinnati:

On Bi-tartrate of Potassa, Tartrate of Potassa, and Tartaric Acid from American Tartar.

On Quicksilver, in North Carolina, from an ore containing 7½ per cent. of metallic mercury.

On Mata, a leaf used by the Mexicans to flavor smoking tobacco, and emitting an odor resembling coumarin.

On American Opium, made by Dr. H. Black, of Bolivar, Tenn., from the White Poppy and yielding, by Riegel's method, 10.2 per cent. of morphia.

On Solution of Bi-meconate of Morphia.

On the inner coat of the gizzard of the South American Ostrich as a remedy for dyspepsia.

The subject of native wines, and the collection and purification of tartar deposited from them, was again discussed.

Evan T. Ellis read a paper on cryolite, and the use of this mineral for preparing soda. The paper was illustrated by specimens of cryolite and its products.

A paper was read by William Saunders, of London, Canada West, on the relative value of the rhizome and rootlets of Podophyllum peltatum. According to the author's results, the rootlets yield most resin.

G. G. C. Simms, of Washington, D. C., read a paper advocating the claims of Dr. Schaefer, of Washington, D. C., to the priority of the use of protoxalate of iron as a remedial agent.

The following papers, contributed by A. T. Moith, of Fishkill Landing, N. Y., were read by Prof. P. W. Bedford:

On Lac Sulphur adulterated with 43 per cent. of dolomite.

On Sweet Spirits of Nitre, advocating Redwood's process as efficient and cheap.

On Bottles for holding Poisons, designated by coating their necks and shoulders with black varnish.

The several volunteer papers read at this session were accepted, and referred for publication.

On motion, the Association adjourned until 3 o'clock, P. M.

Fifth Session.—Thursday afternoon, Sept. 12th.

The meeting was called to order at 3¼ o'clock, President J. Milhau in the Chair. The reading of the minutes was dispensed with.

The Executive Committee brought forward, as a motion, the suggestion of President Stearns to make a standing committee on the internal revenue law, which was negatived.

The Business Committee moved that the Treasurer for the ensuing year be paid the same salary as the Permanent Secretary, which was carried unanimously.

It was now suggested that the members present should sign, during the present meeting, one or other of the blanks as re-

quired by the resolution passed at the morning session, relative to life membership.

Philip L. Milleman, of Chicago, read a volunteer paper on hydrated sesqui-oxide of iron, in which the preservation of the same as an antidote to arsenic by means of glycerin is advocated. The paper elicited some discussion.

The same gentleman presented specimens of the rhizome and rootlets of Hydrastis canadensis, which had been prepared so as to resemble those of Aristolochia serpentaria, and which was sold in the New York market to a Chicago firm.

The Treasurer read a letter from H. T. Cummings, M. D., of Portland, Me., donating to the treasury of the Association ten dollars; he also stated that twenty dollars had been received by S. M. Colcord for the same purpose, and that several members had offered to send contributions on their return home.

Dr. E. R. Squibb read a volunteer paper on commercial jalap, showing the inferiority of many lots of this drug as it is met with in commerce.

The same member read a paper entitled "on repercolation as applied to the cinchonas."

It was moved and carried that all volunteer papers read at this session be accepted, and referred for publication.

A motion by Mr. Colby to take up the resolution of William A. Brewer, laid on the table at the fourth session, was, in the absence of Mr. Brewer, negatived.

The Secretary read a letter from Dr. Samuel S. Garrigues, of Saginaw, Mich., relative to query 24, in which he stated his inability to get sufficient data regarding the sources of supply of tar during the late war to justify his answering it. On motion, it was dropped from the list.

J. V. Heydenreich read an essay in answer to query No. 2, regarding the principle to which the diuretic power of cubebs is due, &c. The paper elicited some discussion relative to the preparation of oleo-resin of cubebs, and the stability of the volatile oil of cubebs.

The same author read a paper on the officinal formula for tincture of chloride of iron, in reply to query 17, which elicited an animated discussion.

The following names were brought forward by the Executive Committee for membership, as having complied with the By-Laws:

John Hooker, Springfield, Mass.
Geo. W. Bird, Brookline, "
Geo. A. Copeland, Providence, R. I.
Gottfried Hebberling, N. Y. City.
E. Fougera, " "
C. F. Chandler, " "
W. H. Whitney, " "
Thomas L. Johnson, Cooperstown, N. Y.
W. R. Schanck, Jersey City, N. J,
Edwin McC. Boring, Philadelphia, Pa.
Jos. L. Shoemaker, Philadelphia, Pa.
J. A. Meyers, Columbia, Pa.
William Maurice Moore, London, Canada West.
Alex. Bain Petrie, Guelph, Canada West.

A ballot was ordered, Geo. C. Close and Theobald Frohwein, of New York, acting as tellers, who reported the election of the candidates.

An essay by Wm. Saunders, of London, Canada West, in answer to query No. 6, on the officinal compound decoction of sarsaparilla, was read by Mr. Markoe. The paper was illustrated by various specimens of the decoction.

Query 35, on tartrate of iron and potassa, was, on motion, continued to J. P. Babcock, of Boston, after which a paper on beeswax, its bleaching and its substitutes, by Mr. Babcock, was read by Mr. Markoe.

C. Lewis Diehl read a paper in answer to query 9, on syrupus senegæ, and showed numerous specimens of this preparation, made according to the method suggested.

The same author read a paper in reply to query No. 20, on colchicin, its isolation, and properties, in which the alkalinity of this principle is denied. The paper was accompanied by a handsome specimen of the principle, of a light yellow color, obtained from the seed.

The meeting then adjourned until to-morrow morning at 9 o'clock.

Sixth Session.—Friday morning, Sept. 13th.

The meeting was called to order by President Milhau. The minutes of the fourth and fifth sessions were read and approved.

The Executive Committee reported the names of the following candidates fer membership:

Ernest Molwitz, New York City.	W. H. C. Onderdonk, N. Y. City.
Geo. G. Sands, " "	Adolph Kirsten, Jersey City, N. J.

A ballot being ordered, Messrs. Neergaard and Shedden, acting as tellers, reported their unanimous election.

The Business Committee laid before the meeting several letters from Mr. J. L. Hunnewell, of Boston, relative to being reinstated in membership. After a discussion of the subject, the Association declined the course of action desired by Mr. Hunnewell, by a unanimous negative vote.

The subject of selecting a place for the next annual meeting being brought forward, a letter was read from Mr. Robert J. Brown, "inviting the Association to hold its next annual meeting in the city of Leavenworth, Kansas, in consideration of the easy access to that central portion of the United States, its close proximity to the plains, and in view of the opportunity of enjoying the exciting sport of a buffalo hunt."

It was moved that when we adjourn, we adjourn to meet in Philadelphia on the second Tuesday in September, 1868, which motion was unanimously carried.

Alfred B. Taylor was nominated for Local Secretary, and unanimously elected by ballot, Messrs. Frohwein and Krehbiel acting as tellers.

The Business Committee presented the following:

Whereas, It is recognized as a prominent means by which this Association hopes to increase its public usefulness as a national Association, to urge upon our legislatures the importance of a judicious, but certain, determined, and, as far as practicable, uniform control of the practice of pharmacy in the various States; therefore,

Resolved, That the President and Executive Committee of the Association be authorized and instructed to offer any service which the Association can render to the various conventions for reforming State Constitutions, and to State Legislatures as opportunity may arise, wherein such bodies may consider the coöperation of the Association either desirable or useful.

The Secretary offered an amendment, to substitute the words "other officers" for "Executive Committee," so as to read, "Resolved, that the President and other officers of this Association be authorized and instructed," &c.

The amendment was accepted, and, after some discussion, the resolution was carried.

The reports on scientific queries being called for, it was found that Numbers 10, 11, 12, 27, 31, 33, 34, 39, 42, 43 and 46 were not replied to.

Henry W. Lincoln, of Boston, read a long essay on query 13, relative to Oleum Theobromæ, illustrated by specimens of the fruit and oil, pure and adulterated, with samples of chocolates.

Prof. Wadgymar, of St. Louis, did not reply to query 21, on Ricinus communis, but offered in place of it a reply to query 27 of 1865, on Hyosciamia, which had not been reported on last year, owing to ill health. Professor Bedford read this paper, which was accepted, and referred for publication.

Query 22, on the physiological properties of the leaves of Ricinus communis, was continued to Mr. Heydenreich, of Brooklyn, his experiments having not yet been completed.

Query 26 was, for a similar reason, continued to Mr. Markoe.

Query 45, on the best form of apparatus for making pills, was replied to by Ferris Bringhurst, of Wilmington, Del. In connection with this subject, the author called the attention of the Association to a pill machine on exhibition by Mr. A .H. Wirz, of Philadelphia. Mr. Bringhurst also alluded to the great convenience of a tin box loaded with shot, as a counterpoise in shop weighing; and exhibited a bottle for keeping volatile oils, the bottle being encased with tin, some filtering paper being placed beneath the bottle, to absorb the oil which might escape over the lip. The same member exhibited a copper funnel, with movable conical wire frame, for facilitating filtration, the whole to replace glass funnels for many uses.

A general discussion ensued on filters and filtration.

The Executive Committee proposed the name of Edward H. Heinitsh, of Columbia, S. C., for membership, when a ballot was ordered, and he duly elected.

The Business Committee presented a communication from the East River Medical Association, relative to physicians' prescriptions, which, from the lateness of the session, was, by motion of Mr. Tufts, laid over as unfinished business until next session.

Mr. Markoe exhibited a model of a powdering mill, on a new principle.

Dr. Squibb now read the report of the Committee on Queries, which was adopted, as follows:

QUERY 1st.—What is the quality, proportion of oxide of mercury, &c., in Hydrargyrum cum creta of commerce, selecting specimens recently prepared by manufacturers, and others from the dispensing bottles of pharmacists?

Accepted by Joseph P. Remington, of Brooklyn, N. Y.

QUERY 2d.—Is the officinal process for Acidum Hydriodicum the best that can be practically suggested?

Accepted by John A. Dunn, of Brooklyn, N. Y.

QUERY 3d.—What additions to Epsom salts will diminish its bitter and nauseous taste, without materially altering its properties? The answer to be accompanied by samples of solutions made by processes suggested.

Accepted by Isaac W. Smith, of Philadelphia, Pa.

QUERY 4th.—What are the sources and commercial history of Mexican Sarsaparilla, and how does it compare with other commercial varieties?

Accepted by Ferris N. Colby, of New York City.

QUERY 5th.—What are the facts in regard to the production of Oil of Camphor of Formosa? Is it a residuum from the manufacture of crude Camphor, and what are the causes of its compartively high price?

Accepted by H. C. Archibald, of Philadelphia, Pa.

QUERY 6th.—To what extent is Chicory—*Cichorium intybus et aliæ*—introduced into commerce as a substitute for Taraxacum?

Accepted by G. F. H. Markoe, of Boston, Mass.

QUERY 7th.—What is the best mode of preserving and dispensing Chlorinated Lime to prevent its loss of Chlorine by exposure? with an examination of the composition of some old and damp specimens in the shops.

Accepted by G. C. F. Chandler, of New York.

QUERY 8th.—What is the nature of the crystalline deposit in Fluid Extract of Cloves, on long standing, made by the process of Professor Procter, reported to this Association? Is it present in the drug, or the result of the oxidation of the oil?

Accepted by F. Llewellyn.

QUERY 9th.—Is Coffee a useful antidote to organic poisons, as so generally stated? What is the *rationalé* of its action, to what extent may it be relied upon, and in what form is it best kept for use?

Accepted by Theobald Frohwein, of New York.

QUERY 10th.—Are the principles in Buchu, which are soluble in water and insoluble in alcohol, important medicinal constituents of the drug? and should they be retained in its pharmaceutical preparations?

Accepted by Thos. A. Lancaster, of Philadelphia, Pa.

QUERY 11th.—Is the so-called "Gelseminia" a neutral or alkaloid principle? Does it exist in the leaves and in the wood of the root, or only in the bark? and does it represent the activity of the plant?

Accepted by Charles L. Eberle, of Philadelphia, Pa.

QUERY 12th.—Is there any practicable method of separating Tannic Acid from tonic tinctures and infusions of which it is an incidental, and not an important constituent, so that they may be prescribed with the soluble salts of iron without becoming black?

Accepted by Theobald Frohwein, of New York.

QUERY 13th.—To what extent is competition a useful means in promoting pharmaceutical progress? what are the most common forms of abuse to which it is liable, and what are its proper ethical limitations?

Accepted by Samuel M. Colcord, of Boston, Mass.

QUERY 14th.—Would the adoption of a universal Pharmacopœia be an improvement upon the present system of national standards? and if so, how can it best be brought about?

Referred to Thomas Doliber, of Boston, Mass.

QUERY 15th.—What are the best reasons for and against the introduction of the metrical system of weights and measures into the United States for medical purposes, and for commercial use generally?

Accepted by J. F. Babcock, of Boston, Mass.

QUERY 16.—How far is Pharmacy entitled to rank as a profession, and what is its true position among the industrial pursuits?

QUERY 17th.—What is the best scheme of practical instruction for young men preparing for the business of pharmacists, aside from necessary service in the shop, with especial view to those who are unable to attend a College of Pharmacy?

Accepted by E. Parrish, of Philadelphia, Pa.

QUERY 18th.—What is the Morphia strength of commercial Powdered Opium, a number of samples, and what is the most ready means of determining it?

Accepted by P. W. Bedford, of New York.

QUERY 19th.—What is the Morphia strength of Sulphate, Muriate and Acetate of Morphia, respectively, as usually met with in commerce? and what is the most ready means of determining it?

Accepted by P. W. Bedford, of New York.

QUERY 20th.—What are the best practical tests for the purity of Bromide of Potassium?

Accepted by G. Krehbiel, of New York.

QUERY 21st,—What are the best tests for the purity of Carbolic Acid, and what are its most useful combinations and applications? also, what common name should be adopted for this article, as mixed with the other coal-tar alcohols associated with it?

Accepted by C. F. Chandler, of New York.

QUERY 22d.—What are the practical reactions between the Permanganates and Alcohol of various strengths and degrees of clearness, and how far can such reactions be made available for producing Deodorized Alcohol, Cologne Spirit, or clean Alcohol, upon the small scale, with special reference to the Alcohol recovered from Fluid Extracts and other Galenical preparations?

Accepted by G. F. H. Markoe, of Boston, Mass.

QUERY 23d.—What are the objections, if any, to the officinal process for Ferri et Potassæ Tartras? and is the salt of commerce practically identical with that of the Pharmacopœia?

Accepted by P. W. Bedford, of New York.

QUERY 24th.—The U. S Pharmacopœia defines Valerianic Acid as having a sp. gr. 0.933. Is this sufficiently accurate for practical purposes? and if not, what standard should be adopted?

Accepted by F. C. Mussgiller, of Brooklyn, N. Y.

QUERY 25th.—From what sources in this country can metallic Bismuth be obtained, and to what amount are they rendered available?

Accepted by C. A. Tufts, of Dover, N. H.

QUERY 26th.—It is found that the process of the U. S. Pharmacopœia for Pyrophosphate of Iron yields a preparation which it is sometimes impossible to scale. Can a better process be devised?

Accepted by S. P. Duffield, of Detroit, Mich.

QUERY 27th.—What are the best and most economical means for ventilating the laboratory and shop of the pharmacist, so as to promote the health of the occupants, without too much expense of fuel in winter?

Accepted by H. T. Cummings, of Portland, Me.

QUERY 28th.—What are the causes of the variations in appearance of Blue Mass in commerce, very little of which is identical with that of the U. S. Pharmacopœia? Which of the ingredients is generally deficient?

Accepted by P. W. Bedford, of New York.

QUERY 29th.—Can any improvement be suggested in Syrupus Lactucarii, U. S. P. 1860?

Accepted by P. W. Bedford, of New York.

QUERY 30th.—Is there a rapid method by which suppositories can be prepared, whereby the use of a hardening ingredient in connection with cocoa butter will not be required?

Accepted by Chas. L. Eberle, of Philadelphia, Pa.

QUERY 31st.—Does the addition of metallic Iron or Zinc to ordinary Hydrochloric Acid which contains Sulphuric Acid as an impurity, decompose the Sulphuric Acid, and liberate Sulphide of Hydrogen?

Accepted by E. R. Squibb, of Brooklyn, N. Y.

QUERY 32d.—Does the lactescent juice of the indigenous Lactuca elongata possess properties similar to those of European lactucarium?

Accepted by John M. Maisch, of Philadelphia, Pa.

The Committee on Specimens were, on motion, permitted to finish their report and hand it to the Secretary next month, in time for the Proceedings.

The Business Committee offered the following:

Resolved, That the thanks of the Association are due, and are hereby offered to its local members and many others who, though not members, are understood to have been instrumental in the success and entertainment of the present annual Convention; also,

Resolved, That we thank our highly competent and careful reporter, Mr. Slade, for his successful efforts in our behalf, and those public reporters who have favored us with their presence and their public notices.

The resolutions were adopted without dissent.

The reading of the minutes being dispensed with, the Association, on motion, adjourned, to meet in Philadelphia on the second Tuesday of September, 1868.

BRITISH PHARMACEUTICAL CONFERENCE.

DUNDEE, SCOTLAND.

Editor of the American Journal of Pharmacy:

Esteemed Sir,—Herewith I enclose you an outline of the proceedings of the fourth annual meeting of the British Pharmaceutical Conference, which met at Dundee, Scotland, on the 4th and 5th of September.

The opening session was held Sept. 4th, at 10 o'clock A. M., in the rooms of the Ward's Chapel, under the presidency of Prof. R. Bentley, of London, The hall was very comfortably and tastefully fitted up, with specimens of rare chemicals and drugs, and much credit is due to the local committee for their very complete arrangements. The attendance was quite numerous. After the election of new members, the secretary read the report of the executive committee, the report stating that the numerical strength of the Conference was increasing satisfactorily, the number of members now being 478. The report also recommends the practice of Pharmacy limited to qualified persons only, and that it was necessary, in order to attain this result, that an appropriate examination should be enforced by legislative authority. After the reading of the financial report, by H. B. Brady, the Treasurer, the President delivered his inaugural address, the subject being "The advantages derived by the Phar-

maceutist from a knowledge of Botanical science." This was a continuation of one he had delivered at the Nottingham meeting last year. Having in the previous paper considered some of the more immediate and direct advantages which the pharmaceutist derived from a knowledge of Botany, Prof. Bentley on this occasion dwelt at length more particularly on its value as a mental training and healthful recreation; in the support of which he stated his own case. "There is no one that can appreciate its importance as a healthful recreation more than myself, for I commenced the study of Botany as a recreation, and for the pursuit of health, when both my bodily and mental powers had been weakened by a too laborious application to in-door pursuits. By its study I was led into the fields, where I speedily regained my health, and at the same time formed associations and friendships, some of which have lasted ever since, and to which I look back as among the brightest in my life."

The president was frequently applauded in the course of his excellent address, and at the close a hearty vote of thanks was awarded him by the meeting. The reading of the scientific papers was next taken up.

A paper entitled "The Adulterations of White Precipitate," prepared by J. B. Barns, was read by the Secretary. Mr. Barns has tested 61 samples, obtained through members of the Conference from 36 different towns. Of this number four only were adulterated. These contained as impurities carbonate of lead and carbonate of lime.

The Conference then adjourned till 2 o'clock.

Afternoon Session.

The Conference again met at 2 o'clock. Prof. Bentley in the chair. Scientific papers being in order, the first was read by Mr. Chas. Kerr, of Dundee, the subject being "A Case of Excise Interference in the Sale of Quinia Wine." In this case the officers of excise laid information against a chemist for having sold quinia wine without having a license for the sale of sweet wines, and the information was only withdrawn upon the condition that a license to sell sweet wines be annually taken out. It was shown that the preparation in question was one that was

officinal in the British Pharmacopœia. An animated discussion on the question took place, which resulted in the appointment of a committee to memorialize the Council of the Pharmaceutical Society for the purpose of endeavoring to bring about more satisfactory relations between chemists and druggists and the Board of Excise.

The next paper was read by Daniel Hanbury, F. R. S., of London, "On Burgundy Pitch." The author of this paper stated the difficulty there existed in finding a genuine article of Burgundy pitch in the market. The artificial that was usually met with, was produced by the admixture of some fatty body with resin, and working it with water, which gave it the required appearance. Mr. Hanbury gave the following as a test: Genuine Burgundy pitch dissolves in glacial acetic acid, forming a perfect solution. This is not the case with the artificial article.

A paper "On Jalap," by Mr. A. Southall, accompanied by sixteen specimens of commercial jalap root. These had been analysed by the author, showing their relative value in proportion of pure resin of jalap, compared with the market prices. In the discussion which arose on this topic it was stated that there was a remarkable resemblance between Tampico jalap and aconite root. A case was mentioned where a parcel of aconite root was mistaken for that of jalap. It was powdered and administered, producing fatal results.

A paper by Mr. G. Dymond, "On a True Citrate Magnesia," was read by the Secretary. The writer contended that it was morally wrong to sell a preparation purporting to be citrate of magnesia while they were well aware that there was very little of that ingredient in the preparation.

A paper on the employment of nitric acid sp. gr. 1·5 in Pharmacy, and another on the nitro-hydrochloric acid of the British Pharmacopœia, by Mr. W. E. Heathfield, were read by the Secretary.

The meeting then adjourned till Wednesday, at 10.30 A. M.

Wednesday. Second Day's Proceedings. Third Session.

The Conference resumed its sittings at 10.30 A. M., Prof. Bentley presiding. The following papers were read: "On a

New Alcoholmeter," by Mr. R. Reynolds. This instrument is a French invention, and acts on the principle of capillary action. "Notes on the Use of the Microscope and its Crystallographic Application," accompanied by numerous diagrams, by Mr. W. W. Stoddart. An interesting paper "On the Electrical Resistance of the Fixed and Volatile Oils," by Mr. T. T. O. B. Warren. A paper by Mr. T. B. Groves, "On Glycelæum a Substitute for Plasmas and Ointments," prepared by using the emulsion of oily seeds, mixing with it glycerine and oil. A very valuable and interesting paper "On Tinctura Opii and Liquor Opii Sedativus," by Mr. A. Southall, the author giving the result of analyses of nine samples of commercial tincture of opium, thereby showing the diversity existing in the preparation in its relation to strength in morphia. Mr. E. C. C. Stanford made remarks "On a Specimen of Sea Weed Char," in relation to its superiority to that of bone black as a discolorizer, and to that of charcoal in deodorizing. Mr. Daniel Hanbury, F. R. S., of London, made some very interesting and instructive remarks upon the specimens of drugs on exhibition at the rooms, which had been contributed by the Edinburgh branch of the Pharmaceutical Society, through its honorary Secretary, Mr. John Makay. A number of papers that were announced to be read had not yet come to hand. They will be published in the Pharmaceutical Journal. The subjects treated in the different papers gave rise to interesting discussions, and votes of thanks were awarded to the respective authors. The President laid on the table a copy of the Proceedings of the American Pharmaceutical Association for 1866, which had been presented by the Secretary, Prof. John M. Maisch, of Philadelphia. Also a volume of the "Laboratory," which had been kindly presented to the Conference by the editor, J. C. Brough, F. C. S., of London.

According to an invitation from the chemists and druggists of Dundee, the members of the Conference again assembled on Friday morning, at 8 o'clock, to make "An Excursion and Picnic to Craighall," a romantic spot twenty-two miles north of Dundee. The excursion was made in open carriages, along a route comprising beautiful scenery of a romantic nature. Craighall is a most picturesquely situated mansion, being built on the

top of a perpendicular rock, 200 feet high, on the banks of the river Ericht.

Having spent several hours in strolling about the beautiful grounds, the company assembled in a group, and a photograph was taken by an artist of Dundee. After this a sumptuous dinner was served up at Craighall, Mr. Russell, of Dundee, presiding. On returning home we stopped at Coupar Angus, where the company sat down to tea at the hotel Royal. Thence again took the road, reaching Dundee about 10 o'clock P. M., all highly delighted with this pleasant trip. Not enough praise can be awarded to the Arrangement Committee of Dundee for the manner in which they received and provided for the comfort of the non-resident members of the Conference.

Respectfully yours,

ALBERT G. EBERT.

ON HIVE SYRUP AND ON DIALYSIS.

BY LUDWIG RIEDERER.

In your March number, 1867, is an essay "On Hive Syrup," by L. W. Gillespie, Laboratory, Dearborn St., Chicago (extracted from the *Druggists' Circular*), which induces me to make a few corrections thereon, because the erroneous use of the important chemical process of "dialysis" would produce consequences not to be foreseen; and an incorrect remark, made in the final part of his essay, "on the inaccuracy of the process," tends to diminish, in undeserved manner, the interest for this subject.

Dialysis, introduced not long ago into science by Graham (Annalen der Chemie and Pharmacie 121, 63), depends on the varying relations of bodies to animal membranes. One division of bodies, "Crystalloids," are able to pass through certain membranes, if in contact with them in solution—the other part, "Colloids," do not possess this quality. All crystallizable bodies belong to the first part; to the second those not able to crystallize, as glue, gum, dextrin, caramel, tannic acid, albumen, extractive matter, hydrate of silicic acid, etc.

The membrane must be a colloidal substance; for example,

animal skin, or, even better than that, vegetable parchment; which must be on the other side in contact with water. When the solution of a crystalloid is put in the dialyser, the crystalloid will pass through the membrane to the water on the opposite side, while a quantity of water corresponding to the dialytic equivalent will stream to that side on which the crystalloid was in the commencement of the operation.

This process will continue as long as solutions on both sides are not of the same strength.

Colloids, under the same circumstances, do not pass, or but slightly.

In the above-mentioned essay are the following lines, page 128, line 8th: "After the lapse of forty-eight hours, the water contained in the outer vessel will be found to have become quite *thick and syrupy*, owing to the presence of a large amount of gummy substances, which *first pass through the porous diaphragm*, and, dissolving in the surrounding water, leave behind the crystalline compounds, hardly a trace of which can be found in the water," etc.

From all this it is clear that, in making the experiment, the guiding idea was to remove by dialysis the fermentatives, as albumen, etc. The error committed herein was to suppose that the colloid would be in the outer liquid after dialysis, while, by their inability to pass through a septum, they could only be found in the inner liquid.

The fact that the outer liquid was thick and syrupy proves that the white porous ware employed is no dialyser, and consequently totally unfit for this experiment.

Mr. G. seems to have made the observation that the inner and outer liquid were not very different, as he says, last line page 127: "yet still a large amount of pectin and gum refused to pass through the dialyser."

By making the experiment in the right manner it would have resulted that, instead of the thick syrupy liquid he had outside, he would have received a light-colored one, containing the most part of the salts and efficacious constituents of senega and squill, which are crystallizable, while on the inner side he would have had the extractive and coloring substances, the albumen, etc.,

which would have made not only a very inefficacious syrup, but also liable to spoil, and the whole process would have been for nothing.

As the accurate results obtained by dialysis are known, and not contestable, the reproach made to the method recoils upon Mr. G. himself, and it is very strange that Mr. G. should throw aside the method of dialysis after having made but one experiment, and this one full of faults. A little more self-instruction in the principles of dialysis would not have been superfluous, and would have spared this criticism.

New York, Sept., 1867.

NOTE BY THE EDITOR.—An apology to our readers is perhaps due that this paper was reprinted without comment, as it is certainly obnoxious to the criticism of Mr. R., but its transfer was made under circumstances that may excuse the neglect. Assuming as fact the statement of Mr. Riederer that porous earthenware possesses no dialytic properties, it is a curious result that Mr. Gillespie found colloids in his diffusate without any (except a trace) of polygalic acid, a result directly the reverse of the dialytic action of Graham's septa, (starch, parchment, etc.) We have made no experiments with senega to test this point and mention it in passing as at least curious and worthy of notice, for if it be true that such a septum as porous earthenware will separate colloidal matter by osmotic action from well marked active principles like that of senega, it may be employed in the very case in question with propriety. In thus speaking it is with the hope that Mr. Gillespie (who appears to have misunderstood the process of dialysis) may resume the subject and, in view of the criticism of Mr. Riederer, repeat his experiments with parchment paper or other colloid septum, as well as with porous earthenware, and give us his results, which may prove interesting if he corroborates his own statement. In the period of twelve hours, during which this proof has been in our hands, we dialysed a mixture of an ounce of Syrupus senega U. S. P., mixed with twice its bulk of water, in contact with a pint of water, using good English parchment paper for a septum. The diffusate acquired a light yellowish color and the odor of senega,

with but very little, if any, of its peculiar irritant taste. It was not precipitated by sub-acetate of lead, but readily gave evidence of sugar. The result, though too hastily obtained to be relied upon, seems to indicate that polygalic acid does not readily pass parchment paper. W. P., Jr.

SPIRIT OF LAVENDER COMPOUND.

By William B. Thompson.

I have been in the habit of preparing the Compound Spirit of Lavender by a process somewhat different from that of the U. S. Pharmacopœia. My formula obviates the process of percolation, and affords a more elegant, and at the same time an equally efficient preparation, without material modification of the officinal formula. If the employment of cinnamon and cloves in substance was with a view to securing astringency, then my process may be at fault; but I have always regarded the preparation as simply carminative, and knew that the respective oils would supply this property equally well, at least, if not better. I avoid also the use of red saunders, which every one knows is prone to deposit, and is certainly a nuisance as a coloring agent in any pharmaceutical preparation designed to be finished. I append the formula, which yields a transparent, richly-colored tincture:—

Take of	Alcohol	6 pints.
	Oil of Lavend. Flos.,	f℥i.
	Oil of Rosemary,	f℥ii.
	Oil of Cinnamon,	f℥ss.
	Oil of Cloves,	10 drops.
	Water,	2 pints.
	Cochineal,	℥iiss.

Dissolve the oils in the alcohol, and to the solution add the water, in small portions, mixing thoroughly; finally add the cochineal, and after twenty-four or forty-eight hours, filter.

Philadelphia, October 7, 1867.

Note.—We print the communication of Mr. Thompson, but must accompany it with a few words of comment. The fact that compound spirit of lavender is used as an ingredient in Liquor

potassæ arsenitis, and that its peculiar officinal coloring matter is necessary to give that preparation its proper color, was one reason for not using the cochineal in constructing the officinal formula. Further, the percolation of the cloudy solution of the oils through the aromatics, in substance, clarifies it; and, as the aroma of the spices is nearly always more delicate than the commercial oils, the preparation is more agreeable in consequence. For these reasons we very much doubt the advantage of substituting this recipe for the officinal.—EDITOR AMER. JOUR. PHARM.

PHARMACY OF THE CINCHONAS.

BY EDWARD R. SQUIBB, M. D., of Brooklyn, N. Y.

(Continued from page 414.)

The finished extract consists of about four-fifths alcoholic extract of the Cinchonas, and one-fifth Glycerin. The alcoholic extract of Red Cinchona contains in the four troyounces 262 grains of impure alkaloids, equal to about 336 grains of the crystallized sulphates; or about 65 grains of alkaloids, equal to 84 grains of sulphates to the troyounce. This gives for the finished extract (with the Glycerin) about 52 grains alkaloids, or equal to 67 grains of sulphates to the troyounce.

Made from the Yellow Cinchona, which contains over four per cent. of alkaloids instead of 3·4 per cent., the proportion will be over one sixth more, or about 64 grains impure alkaloids to the troyounce, and these mainly quinia, whilst in the Red Cinchona the quinia and cinchonia may be in nearly equal proportions. It will be sufficiently accurate for therapeutic application to consider such extracts as containing about the equivalent of 10 grs. of the sulphates of Cinchona alkaloids to the drachm, or half a grain in each three-grain pill, the form in which it would be most conveniently used. But it must be borne in mind that the alkaloids are not the only tonic constituents of such an extract, and it might perhaps be fairly assumed that in tonic effect a three-grain pill of such extract might equal a grain of Sulphate of Quinia or Cinchonia.

In some trials made with the oldest and hardest of these pills

yet accessible, even when these have been made harder by the addition of dry powder to the extract, they readily disintegrate in a few moments in the mouth or in water, and they would probably be found to be always promptly and easily soluble in the stomach, since the Glycerin is well known to be not only a preservative and a solvent, but also an efficient agent to prevent hardening by either oxidation or dessication. Indeed, the pills made from this extract seem to have the contrary tendency of becoming moist and soft in the hot damp weather, and this may prove an objection to the quantity of Glycerin used.

The principal objection, however, to the general use of such an extract will be its cost, and the facility with which it may be cheapened without easy detection, since Cinchonas of low grade yield nearly as much extract as the higher. The neat cost of 7680 grains (16℥.), or practically 1⅛ lbs. Av. of good quality Cinchona in powder, to the pharmacist, can rarely be less than $2.25 to $2.75. The 21 or 22 f℥. of alcohol actually expended can hardly cost less than 60 cents, and costs 75 cents if the duty be honestly paid, making a total of about $3.00 for five troyounces, or about $8.75 per lb. Av., without estimating for either the apparatus, fuel, time, labor, skill or profit. There are, however, a certain proportion of cases requiring Cinchona tonics, where the bitterness of any liquid preparation which is strong enough to be useful is so disagreeable, and even nauseating, as to obstruct or prevent the tonic effect; and these cases may render such an extract, or the one to be next considered, important.

Extractum Cinchonæ Compositum—Compound Extract of Cinchona.

Take of Cinchona, either Red or Yellow, in fine powder, sixteen troyounces.
Glycerin, one troyounce and one hundred and twenty grains.
Aromatic Powder, one troyounce.
Alcohol, six pints and ten fluidounces.
Water, a sufficient quantity.

Mix the Cinchona with thirty fluidounces of the Alcohol, by thoroughly stirring them together in a proper vessel, and pour

the mixture into a glass funnel prepared for percolation. Then pour the remainder of the Alcohol on top, as required, and follow this with water until the percolate becomes cloudy, and makes a precipitate in the receiving vessel. Then distil off the Alcohol from the percolate by means of a water bath, and stir the residue on the water bath until it becomes a thick extract weighing four ounces. To this add first the Glycerin, and heat the mixture, with stirring, until a perfectly uniform mixture is obtained. Then add the Aromatic Powder, and again stir very thoroughly. The finished extract should then weigh six and a quarter troy-ounces, or less, and each grain represents about two and a half grains of the Cinchona.

This compound extract is a very elegant preparation, and a therapeutic alternative for the fluid extract with aromatics, now much used, and to be mentioned hereafter. The working details are the same as in the case of the simple extract. As good Aromatic Powder is very essential to this preparation, that ingredient will be considered subsequently in another connection. This compound extract is about one-sixth weaker in alkaloids, but this deficiency is so nearly counterbalanced by the tonic and stimulant effect of good aromatics upon the relaxed and enfeebled conditions of the stomach so generally found where such tonics are required, that, like the wine in which they are commonly directed to be taken, they are not simply excipients, but powerful auxiliaries. The dose of this extract may therefore be considered as about the same as the simple extract—say one or two three-grain pills twice or thrice a day, just before meals, and followed by half a glass of good wine, or the wine taken with the early part of the meal. When preparations of iron are also indicated, the medicines should be alternated, but never mixed—the one being taken before one meal, and the other before the next. This plan, too much neglected, simplifies prescriptions, and avoids all question of incompatibility.

Extractum Cinchonæ Fluidum—Fluid Extract of Cinchona.

Take of Cinchona, either Red or Yellow, in fine powder, sixteen troyounces.

Take of Glycerin, eight fluidounces, or nine troyounces and two hundred and eighty grains.

Alcohol, six pints and ten fluidounces.

Water, a sufficient quantity.

Mix the Cinchona with thirty fluidounces of the Alcohol thoroughly, in a proper vessel, by stirring them together; cover the vessel, and allow the mixture to stand half an hour. Then transfer it to a glass funnel, prepared for percolation, and pour the remainder of the Alcohol on top, as required, following it with water after the last of the Alcohol has sunk below the surface, until the percolate becomes cloudy and makes a precipitate in the receiving vessel. Distil off the Alcohol from the percolate by means of a water bath, until the distillation has nearly ceased, or until the residue in the still weighs six troyounces or less. Add to this the Glycerin, and warm the mixture well in the water bath. Finally, cool the mixture, and make it up to the measure of a pint from the Alcohol recovered by the distillation, and agitate the whole well together. The weight of the pint of finished fluid extract will vary with the temperature at which it is weighed, and with the character of the Cinchona, from 8282 grs. to 8366 grs.; and each minim represents one grain of the Cinchona in a half minim of Glycerin, the remainder being Alcohol and water.

This fluid extract is almost black in color when seen in mass, but of a rich dark ruby red, approaching to garnet, when seen in thin strata by transmitted light, and is perfectly transparent. It is about the consistence of Simple Syrup at the same temperature, has the aroma of good Cinchona, and a clean, clear, bitter taste, much modified by the sweetness of the Glycerin. It makes a transparent solution with all proportions of Glycerin or Alcohol, and with all mixtures of the two. It also makes a nearly transparent solution with a mixture of equal parts of Glycerin and water, and with brandy and whisky, but makes a cloudy solution with wines.

The dose is from ten minims to a fluidrachm, according to the indications to be met by it, and it is best administered in a tablespoonful or more of sherry wine just before meals. It has been so used by a few physicians, for some months past, with

good effect, and is found in this limited use to be a convenient preparation, though not adapted quite so well to general uses as the one next to be mentioned.

Extractum Cinchonæ Fluidum Compositum—Compound Fluid Extract of Cinchona.

Take of Cinchona, either Red or Yellow, in fine powder, sixteen troyounces.

Glycerin, eight fluidounces, or nine troyounces and two hundred and eighty grains.

Compound Fluid Extract of Bitter Orange Peel, a sufficient quantity.

Alcohol, six pints and ten fluidounces.

Water, a sufficient quantity.

Mix the Cinchona thoroughly with thirty fluidounces of the Alcohol, in a proper vessel, by stirring them together; cover the vessel, and allow the mixture to stand half an hour. Then transfer it to a glass funnel prepared for percolation, and pour the remainder of the Alcohol on top, as required, following this with water, after the last of the Alcohol has sunk below the surface, until the percolate becomes cloudy, and makes a precipitate in the receiving vessel. Distil off the Alcohol from the percolate by means of a water bath, and stir the residue on the bath until it weighs five troyounces. To this add the Glycerin, and warm the mixture until it is uniform. Then cool it, and make it up to the measure of a pint with Compound Fluid Extract of Bitter Orange Peel, and agitate the whole well together. The weight of the pint of finished fluid extract will vary somewhat with the temperature, etc., but should be about 8600 grains; and each minim represents one grain of the Cinchona, and from one-third to a quarter of a grain of the aromatics in half a minim of Glycerin, the remainder being Alcohol and water.

This fluid extract resembles the last in color, but is rather thicker, and has the fine rich odor of the aromatics, and a less pure bitter taste, not so disagreeable to most persons. To many, however, both are agreeable, and almost equally so, particularly when taken in wine. The solubility, reactions, dose and mode of administration are the same as in the simple fluid extract.

This is a very elegant preparation, and has been effectively used for some months, increasing in favor with those physicians who judiciously apply it. It is really but an improved formula and about three times the strength in the other ingredients, and its therapeutic applications are, of course, the same as those of the officinal tincture.

The formula for which the last one is now proposed as an improved substitute has been longer in use, and has proved, in the hands of others to whom it has been given, an excellent and convenient preparation. It only differs from the last in being more accurately a concentrated form of the compound tincture. It is called

Compound Fluid Extract of Red Cinchona,

and prepared as follows:—

Take of Red Cinchona, in fine powder, sixteen troyounces.

Glycerin, eight fluidounces, or nine troyounces and two hundred and eighty grains.

Compound Fluid Extract of Bitter Orange Peel, a pint.

Alcohol, six pints and ten fluidounces.

The management is precisely the same as for Extractum Cinchonæ Fluidum, (see page 515,) until one pint of the simple extract is obtained. This is then mixed with the pint of Compound Fluid Extract of Bitter Orange Peel, (which see farther on,) making two pints of the finished preparation. Except that the Red Saunders is omitted as being worse than useless, and the Glycerin added to make a more perfect solution, and prevent the precipitation of the Cincho-tannates, this is the exact counterpart of the officinal Compound Tincture of Cinchona, or Huxham's Tincture, only that, from its being five times the strength, and less liable to precipitate, it is considered a much better and more economical preparation, while it is appropriate to the same uses. Each minim, of course, represents half a grain of Cinchona and half a grain of Aromatics, and the dose is from twenty minims to two teaspoonfuls, according to the indications to be fulfilled by its use. Like the other preparations, it should be given in a little wine or whisky, just before meals.

Compound Fluid Extract of Bitter Orange Peel.

Take of Bitter Orange Peel, eighteen troyounces.
Serpentaria, four and a half troyounces.
Saffron, one and a half troyounces.
Alcohol,
Diluted Alcohol,
Water, of each a sufficient quantity.

Triturate the Orange Peel, Serpentaria and Saffron together, until they are reduced to a fine powder, and divide this into three equal parts. Moisten the first part with four fluidounces of Alcohol, pack it firmly in a glass funnel prepared for percolation, and pour upon it, as required, first, twenty fluidounces of Alcohol, then twelve fluidounces of Diluted Alcohol and, finally, eight fluidounces of Water, in succession, waiting until each liquid has disappeared off the surface before supplying the next. From this, twenty-eight to thirty fluidounces of percolate will be received, and this percolate should be separated, as it passes, into three portions; the first portion of four fluidounces, the second portion of twelve fluidounces, and the third portion, the remainder. Then moisten the second part of the powder with the first portion of the percolate, pack it firmly in a glass funnel prepared for percolation, and pour upon it, as required, the two remaining portions of percolate in the order in which they were received. Follow these with twelve fluidounces of Diluted Alcohol, and then with water, as before. From this about two pints of percolate will be received, and should be separated into three portions, as before. Moisten the third part of the powder with the first portion of the last percolate, pack it firmly in a glass funnel prepared for percolation, and pour upon it, as required, the two remaining portions of the last percolate in the order in which they were received. Follow these with twelve fluidounces of Diluted Alcohol, and then with water, as before. From this twenty-four fluidounces of percolate should be reserved. The first sixteen fluidounces is the finished Fluid Extract, and the remainder is to be preserved in a bottle for use in the next process for this preparation, when, by the use of this instead of so much Alcohol, the pint of Fluid Extract, and a

similar quantity of weaker percolate may be obtained in the same manner from two parts of the powder.

This Fluid Extract is a dense mobile liquid of a brownish, almost black color in mass, but deep brownish yellow in thin strata by transmitted light. It has an intense but not disagreeable aromatic bitter taste, and the agreeable aroma of the ingredients with the Saffron predominant. It is almost wholly soluble in water, but does not give a transparent solution. An accurately-measured pint weighs, at 76° F., 6,700 grains, the same measure of the Alcohol from which it was made weighing at the same temperature 6,050 grains. Each minim represents three-fourths of a grain of Bitter Orange Peel, three sixteenths of a grain of Serpentaria, and one-sixteenth of a grain of Saffron or thereabouts.

As the acceptability of medicines to the stomach sometimes depends very much on the aromatics with which they are associated, and as the aromatics themselves are thoroughly medicinal, it is important that they should be of good quality. Bitter Orange Peel is rarely of fine quality, and is generally very poor, from being mouldy, and containing a disproportionate amount of spongy white pulp. The true officinal variety is thin, from small fruit, and very bitter and aromatic. Of late years it appears to be quite impossible to get true Saffron unadulterated; yet an article can always be had at from $18 to $20 per pound, which is mainly true Saffron, and commonly well prepared and kept. Such only should be used in this preparation, and of such the cost is so great as to render it questionable whether the Pharmacopœia should not abandon it in favor of better aromatics, and those which are indigenous if possible. The solid ingredients of this preparation are better and easier powdered together.

The peculiar mode of managing this percolation, in principle of application, dates back to the earliest experiments made on this subject, but appears to have fallen into disuse from the complexity of detail, and for want of proper discrimination in the substances to which it was applied. The experience of many years, with much attention to the subject, have led the writer to the conclusion that no general plan or general rules for percola-

tion can be safely adopted, but that each substance should be specially studied in order to attain the best practical results. This powder, like a few others, is very easily moistened, so that, with a spatula or horn scoop, and without rubbing between the hands, it is quickly got into a uniform condition, free from lumps, being in this respect very unlike the Cinchonas. It is also easily and quickly packed, with equable firmness, and therefore may be successfully percolated in small portions. The menstruum adopted being an excellent and an easy solvent of all that is desired, and dissolving such portions in almost unlimited amount, while refusing the inert mucilaginous parts, is admirably adapted to be re-applied to successive portions of the powder. Under these conditions, it is not difficult to so arrange the details that practical exhaustion may be effected without a very profuse use of the expensive menstruum; and this is the object of the complicated management. The effect of this management is pretty well illustrated by the weight of the percolates. A pint of the menstruum used weighed 6,050 grains. The first pints of percolate from the three parts of the powder weighed about 6,350 grains, 6,500 grains, and 6,700 grains, respectively; and this weight would doubtless go on increasing within all reasonable limits. When the parts of powder operated on are doubled, of course the advantages of this mode of percolation are increased. The use of Diluted Alcohol to push the Alcohol through is rendered necessary by the circumstance that, if water be at once used, as with the Cinchonas, the powder swells up, gelatinizes and stops the percolation before it has proceeded far, and the object of economizing the Alcohol is frustrated. By the plan described, the Diluted Alcohol displaces the stronger Alcohol at half the cost. The powder holds about eleven and a half fluidounces of Alcohol, but, when the Diluted Alcohol is put on, it swells, and holds much more, so that it requires not only the twelve fluidounces of Diluted Alcohol, but several fluidounces of water in addition, to entirely displace the eleven or twelve fluidounces of weak percolate. The progress of these displacing liquids is well seen through the funnel as they descend and push the Alcohol before them.

If it be admitted that Bitter Orange Peel and Saffron are

but feeble tonics, their properties as stomachic aromatics simply, would hardly warrant their selection as best adapted to these preparations of Cinchona, and the writer has long thought it would be judicious to abandon them in favor of more effective stimulant aromatics, and in the early part of the late war, when called upon to devise a good vegetable tonic for general army use, did not hesitate to abandon these, notwithstanding the many years of accumulated experience with the well-known Huxham's Tincture. The Serpentaria being regarded as scarcely more than an aromatic in the small quantity used, Calamus, Cardamon and Ginger were substituted for the three with supposed advantage, and Calisaya or Yellow Cinchona was substituted for Red Cinchona, as being a more uniform Bark, the good varieties of which were more easily accessible, and as containing a larger proportion of the most important alkaloid, and therefore better adapted as a tonic to the miasmatic localities in which it would be often used. The name adopted for it at the time it was devised and first used in the Army was Extractum Cinchonæ Fluidum. But when the Committee of Final Revision of the Pharmacopœia declined to adopt it, and adopted the present officinal fluid extract by this name, which was far more appropriate to the simple officinal preparation than to this compound preparation, it became necessary to change the name in order to avoid confusing interference with the Pharmacopœia. It was then changed to Extractum Calisayæ Fluidum, by which title it is now somewhat largely and perhaps favorably known. During the war more than 10,000 pounds of it were dispensed from the Army Purveying Depots. The recent Revising Board still retained it upon the Army Supply Table, and its reputation in civil practice seems still pretty well sustained in use, and there can be little doubt that when made from good materials it is an efficient and valuable preparation. Since the first publication of the formula it has been twice slightly modified,—once when presented to the Committee of Revision, and once since. Both changes are believed to have been adopted by the Army Laboratories, and the formula now to be given has been in use since September, 1865.

Extractum Calisayæ Fluidum—Compound Fluid Extract of Calisaya containing Aromatics.

The design is to have a fluid extract of which each minim shall represent half a grain of the Cinchona, and in which the aromatics should have the fixed proportion of 10 per cent. of the weight of the Cinchona, and the sugar 60 per cent. Upon this basis the formula was constructed.

Take of Yellow Cinchona, in fine powder, sixteen troyounces.
Calamus, in fine powder,
Cardamon, in fine powder,
Ginger, in fine powder, of each two hundred and fifty-six grains.
Sugar, nine troyounces and two hundred and eighty-eight grains.
Alcohol,
Diluted Alcohol,
Water, of each a sufficient quantity.

Moisten the Cinchona with twelve fluidounces of Diluted Alcohol: pack it firmly in a glass funnel prepared for percolation, and pour upon it, as required, three and a half pints of Diluted Alcohol, following this with water after the last of the Diluted Alcohol has disappeared from the surface, until the percolate becomes cloudy and makes a precipitate in the receiving flask. The percolate should measure about four pints. Reserve the first pint received, and, having recovered the Alcohol from the remainder by distillation, boil the residue down to six fluidounces. To this add the sugar, and, having stirred the mixture until the sugar is entirely dissolved, add the reserved percolate, stir well, and strain while hot.

Mix the aromatics, moisten the powder with half a fluidounce of Alcohol, pack it in a small funnel prepared for percolation, and percolate it with Alcohol until the percolate obtained when added to the fluid extract be sufficient to make the measure up to two pints.

This finished fluid extract is of a very dark reddish brown, nearly black, color and more or less turbid from some undiscovered differences in different lots of Cinchona of the same richness

in alkaloids. Occasionally a package of Cinchona is met with which yields a permanently transparent preparation. But in general a small deposit occurs as soon as the liquid becomes cold, and this increases in quantity slowly as long as the preparation is kept, requiring that it should be shaken up when dispensed or used. This preparation is not too thick for convenient use, and is very bitter and aromatic, but generally acceptable to the stomach.

The objections to this preparation are exactly the same in kind as to the officinal Fluid Extract, though by no means the same in degree. It is however susceptible of the same improvement with the same prominent advantages to be gained, and therefore the following formula is offered as a substitute:

Extractum Cinchonæ Flavæ Fluidum—Fluid Extract of Calisaya, with Aromatics.

Take of Yellow Cinchona, in fine powder, sixteen troyounces.
Glycerin, eight fluidounces, or nine troyounces and two hundred and eighty grains.
Aromatic Fluid Extract, (see further on,) a sufficient quantity.
Alcohol, six pints and ten fluidounces.
Water, a sufficient quantity.

The process and management are precisely the same as in the Extractum Cinchonæ Fluidum Compositum, see page 517, and the preparation is the same except in the kind of aromatics used, and the Cinchona restricted to the Calisaya or Yellow variety. The name here proposed is objectionable because it is inconveniently long, and yet does not express the compound character of the preparation. The title Extractum Calisaya Fluidum would be better, but it is not consistent with the Pharmacopœia nomenclature, and, therefore, should it be accepted for the Pharmacopœia the name would have to be changed.

The dose, mode of administration, etc., are the same as in the simple fluid extract.

The aromatics used here are those which in long service have proved so acceptable in the officinal Pulvis Aromaticus, and it is highly probable that a better combination of better aromatics

could not be found. Hence this powder has been adopted as a corrigent and adjuvant in the compound Extract of Cinchona, and a fluid extract of it to serve the same purposes in the compound Fluid Extracts. Calamus, as an aromatic, is a great favorite with those who have used it most and most appropriately, and this might possibly be substituted for the Cardamon, which is a very dear drug, and often difficult to obtain of good quality, whilst the Calamus is indigenous, cheap and abundant.

There are three practical difficulties which often, if not generally, interfere with the character and quality of the officinal Aromatic Powder. One is that Cassia instead of true Cinnamon is commonly used. This, however, is authorized by the Pharmacopœia; and this authority is sustained and justified by some, if not all, of the best living authorities who have written on the subject. Yet, where a delicate, sensitive stomach is to be treated, the writer would as little advise the use of factitious brandy or wine. If we are to discard such differences as exist between Cinnamon and Cassia, we might as well replace the Cardamon and Nutmeg by indigenous aromatics. Another difficulty is that the Cardamon is directed to be "deprived of the capsules." This can only be done properly and thoroughly by hand-picking, and this process is so tedious that nearly two hours is required to separate 1000 grains of the short Malabar variety and still longer with the tough long Cardamon. Good short Malabar Cardamon, worth now about $4.00 per pound, contains an average of about 428 capsules of seed to the 1000 grains, and these in a graduate measure, measure not over 6 f℥. The capsules are thin and compact in structure (not tough and spongy) and peel off with ease from the dark oily rich looking mass of seed, which adhere together often with some tenacity. Such Cardamon contains but few small shrivelled capsules, and but few that have worm holes, and the capsules, though not all short and plump, are tolerably uniform in shape, size and color, and the color should be bright tawny yellow, the lighter the better. Such Cardamon separated by hand give 76·5 per cent of seed. When beaten lightly in a mortar and the hulled seed separated from time to time by a sieve, the greatest practical yield was about 74 per cent., unless the pounding was hard enough to

powder the more friable portions of the capsules. The capsules, when separated from the seed by hand, are very nearly odorless and tasteless; and when separated in a mortar by gentle treatment they are but little more aromatic; but such treatment only yields about 65 per cent. of seed. When beaten hard enough to obtain 73 or 74 per cent. of seed, the capsules are thoroughly aromatic to the taste and smell from the oil which they absorb in the pounding.

The longer Cardamon, with long thick projecting extremities, vary very much in this their peculiar characteristic. When only moderately long, and when full, plump and uniform, they count about 422 to the 1000 grains, and measure 6½ f℥ full. They yield to hand-picking 73·5 per cent. of seed, and the capsules are tougher, thicker, more spongy and more difficult to break, and the group of seed within is of a lighter average color, and less inclined to adhere together. When separated by very gentle beating they give 60 per cent. of seed, and by hard beating, but without much powder of capsules, about 71 per cent. The seed of this variety is distinctly less pungent and less aromatic, and less oily than the short, and although they cost about 60 cents per pound less for corresponding high grades of quality, they are really dearer in a true economical point of view. Taken altogether, these experiments indicate thas it might be better not to direct the Cardamon "deprived of the capsules," but simply to direct "Cardamon in fine powder," and increase the quantity by 25 per cent. to obtain the aromatic value. The capsules, by their absorbent properties, render it easy to reduce the whole to fine powder, on any scale, without that injurious process of drying, while the seed alone, from their oily nature, are difficult to reduce to the desirable degree of fineness. There are perhaps few pharmacists who powder their own Cardamon as they should do, and that bought of the druggists is, without a single exception in the writer's experience as a drug-grinder, powdered capsules and seed together. This is not intended as an argument in favor of the Pharmacopœia bending to the customs of trade, but to show the pharmacist that, in order to get a good thoroughly officinal aromatic powder, he must powder the Cardamon for himself. This powdering for one's self is still

more imperative in regard to the nutmeg, and the directing nutmeg to be taken "in fine powder" is a not unimportant mistake of the Pharmacopœia, since the writer's knowledge, based on abundant experience, is positive as to the fact that no nutmeg, of however low ordinary grade of quality, can ever be reduced to fine powder, alone, without being "well dried," and it is equally certain that this drying process in oily and aromatic drugs is rather a process of oxidation than of separating moisture, and this oxidation is essentially destructive in all such cases. The pharmacist, equally with the drug-grinder, who tries to reduce nutmeg to "fine powder," or to any degree of fineness useful as a powder, will fail, in consequence of the oily nature of the substance; and any drying whatever of the coarse powder preparatory to reducing it to a finer powder, is not only very wasteful of the essential oil by evaporation, but is wasteful also by oxidizing it into insoluble resin, which powders easily enough. As a deduction, therefore, no pharmacist should ever buy powdered nutmeg, nor need he attempt to powder it for himself. In a formula like the one under consideration, however, the difficulty is easily overcome by crushing the nutmeg, and then adding to it a portion of the cinnamon and ginger powders, which by their absorbent nature take and hold the excess of oil which obstructs the powdering. The Cardamon seed also powders more easily when mixed with these absorbent powders, and the resulting preparation is a more intimate and perhaps more uniform mixture of the aromatic properties of the drugs, than where the powders are simply rubbed together "until thoroughly mixed." For these reasons, the following modification of the officinal formula is recommended:—

Pulvis Aromaticus—Aromatic Powder.

Take of True Cinnamon, in fine powder,
Ginger, in fine powder, each two troyounces.
Cardamon, six hundred and eighty grains.
Nutmeg, a troyounce.

Rub the Cardamon and Nutmeg into a coarse powder, mix this with the Cinnamon and Ginger, and then triturate the mixture in convenient portions, and pass it through a sieve of sixty

meshes to the linear inch, rejecting a small ligneous residue which is difficult to reduce to powder.

This makes a very elegant and very efficient powder, though not quite so nice as when all the aromatics of carefully-selected quality are powdered together in quantity in an ordinary Chaser mill.

The above formula of 3,080 grains in all, yields to ordinary management 2,840 grains, and 15 to 20 grains of ligneous residue, and the cost of the materials for this 6½ av. ounces of finished powder is about 74 cents, or $1.82 per pound, avoirdupois, exclusive of time, labor, skill, apparatus, etc., and profit. If the time, labor, etc., be estimated at 12 cents per pound, making $1.94, and the profit on this, say 20 per cent., the lowest probable price for good Aromatic Powder could not be less than $2.33 per pound in first hands, yet it is not uncommonly sold at about $2.00 per pound.

The medicinal value and uses of good Aromatic Powder are such as perhaps to warrant the introduction into the Pharmacopœia of a fluid extract prepared from it. A fluid extract of aromatics, proposed by Prof. Procter, of Philadelphia, in 1859, has been in advantageous use, but the aromatics are different, are in different proportions, and perhaps not so well adapted to general uses as those of the Pharmacopœia. For the Cinchona preparations, and for many other uses, the following formula is suggested:—

Extractum Aromaticus Fluidum—Aromatic Fluid Extract.

Take of Aromatic Powder, twenty-four troyounces.
Alcohol,
Water, each a sufficient quantity.

Divide the Aromatic Powder into three equal parts, moisten the first part with four fluidounces of Alcohol, pack it firmly in a funnel prepared for percolation, and pour on top, first, a pint of Alcohol, and, after this has disappeared, twelve fluidounces of water. Percolate to sixteen fluidounces, keeping each four fluidounces separate as it passes through. Then moisten the second part of the powder with the first four fluidounces of percolate from the first part, pack it firmly in a funnel pre-

pared for percolation, and pour on top, in succession—waiting until each portion of liquid disappears from the surface, before adding the next—first, the three remaining portions of percolate from the first part of the powder, then four fluidounces of Alcohol and, finally, twelve fluidounces of water. Percolate to sixteen fluidounces, or until the percolate begins to be watery, keeping each four fluidounces separate as it passes through.

Manage the third and last parts of the powder in precisely the same way as directed for the second part, using the percolate from the second to percolate the third with. Percolate to twenty-four fluidounces, reserving the first pint as finished fluid extract, and preserving the remainder for future use. When the process is to be again undertaken, sixteen troyounces of the powder is to be taken, divided into two equal parts, and the weak percolate from the last process used as so much Alcohol to start the first part. From the sixteen troyounces a pint of finished fluid extract and eight fluidounces of weak percolate is to be obtained in the same manner as from the last two parts of the first process.

This makes a very elegant preparation, fully representing the Aromatics, minim for grain, with the use of the smallest portion of menstruum, and without heat. The pint of fluid extract weighs 6,373 to 6,400 grains at 78° F., the same measure of the Alcohol used weighing 6,050 grains.

This method of repercolation, described in connection with Cinchona, is admirably adapted to this powder also, and, if applied with moderate skill, leaves little to be desired.

Brooklyn, August 10th, 1867.

PHARMACOPŒIA HELVETICA. SCAPHUSIÆ EX OFFICINA BRODTMANNIANA, Chr. Fr. Stoetzner, 1865.

(Continued from page 316.)

Vinegars and tinctures are made by maceration or digestion, usually for one week, when the liquid is poured off, the mass expressed, and sufficient of the menstruum added to make the whole, after filtration, of the same weight as the menstruum originally employed. The object, to have these preparations

contain a uniform percentage of the drugs employed, is thereby carried out merely approximately; for the liquid retained by the residue, by the press-cloth and the filter, is charged with the soluble principles, and its quantity must necessarily vary with the nature of the drug. Most of the pharmacopœias of the different German States employ maceration, and after decantation direct the residue to be expressed, and the liquid to be filtered, and forbid to make up the lost quantity by the addition of more menstruum. The preparations made in this manner must necessarily be of more uniform strength, provided the drugs were alike in quality; made according to the Swiss pharmacopœia, it is only by the utmost care and judicious manipulation that they can be obtained of absolute uniformity. It is curious that in Europe the process of displacement is so rarely employed, while in this country it has been carried to great perfection. The objections usually urged against displacement by our transatlantic brethren are all removed if the main points upon which the success of the process depends are carefully attended to, namely, uniformity and fineness of powder, and judicious packing, so as to insure even and slow percolation.

The vinegars of colchicum, digitalis and squill are made to represent one-tenth their weight of the drugs, dilute acetic acid being the menstruum. Acetum rubi idæi is made from the syrup with twice its weight of dilute acetic acid.

The formula for acetum aromaticum, or four thieves' vinegar, is as follows: lavender flowers, wormwood, peppermint, rue, sage, angelica root, calamus, and zedoary, of each 8 parts, cloves 4 parts, and sufficient vinegar to make 750 parts.

Medicated waters are made by distillation in the proportion of 1 to 20 (aqua anisi, cinnamomi, fœniculi, petroselini), 1 to 10 (aqua chamomillæ, cinnamomi spirituosa, melissæ, menthæ crispæ, menthæ piperitæ, salviæ, valerianæ), and 1 to 5 (aqua rosarum, sambuci, tiliæ). Aqua amygdalarum and aqua laurocerasi contain one grain hydrocyanic acid in two ounces; both are made by distilling from the material its own weight of water, agitating with the volatile oil, and diluting the water so that 192 parts will yield one part dry cyanide of silver. These directions are more explicit than those of the Prussian and other pharma-

copœias, which distil a certain quantity of water, and require this to be of a certain strength. The necessity for keeping those two waters is not very obvious; other pharmacopœias very properly allow the dispensation of one for the other, since the prescribed strength of hydrocyanic acid in both is alike; this identity is recognized in the Swiss pharmacopœia, by directing either of the waters to be diluted with 23 parts distilled water, to obtain aqua cerasorum.

Under the name of aqua aurantii the commercial triple orange flower water is used, and a rectification directed in case this should be contaminated with metal. The formula of our pharmacopœia, requiring distillation from the (dried) flowers, we do not believe is ever followed, on account of greater cheapness and superior quality of the proper commercial article.

Our pharmacopœia has a better camphor water than the aqua camphorata of the Swiss, which is made by triturating two grs. of camphor and of gum arabic with one ounce of water.

Aqua chlori is obtained by passing chlorine through a series of (Woulfe's) bottles, partly filled with distilled water, the unabsorbed gas being conducted into a solution of protochloride of iron. The water must contain not less than 3 grains chlorine in the ounce.

Aqua rubi idæi is made from the residue left on expressing the juice, by macerating it in water with a little carbonate of potassa and distilling two parts.

In making aqua calcariæ, the burned lime is first washed by decantation with 50 parts water, to remove alkalies and alkaline salts—a commendable precaution.

For preparing gun cotton the process is similar to our officinal one, except that one-half of the sulphuric acid used is Nordhausen acid, and the cotton is macerated three to five minutes. One part of it dissolved in 18 p. ether furnishes collodium. Collodium cantharidatum is nearly one-half stronger than the corresponding preparation in this country.

Colocynthis præparata (with five-sixths colocynth) and cuprum aluminatum (s. lapis divinus) are made by the well-known formulas; also Zittmann's decoction, in which cinnabar and calomel

have been retained, which were left out in the Prussian pharmacopœia since 1862.

Elæosacchara are made from 2 drops of the volatile oil to 60 grains sugar; elæosaccharum vanillæ in the proportion of 1:15.

Electuarium lenitivum consists of 9 powd. Alexandria senna, 1 powd. coriander, 48 simple syrup and 16 pulp of tamarinds, well mixed.

Elixir pectorale is the old elixir e succo liquiritiæ, composed of 1 licorice, 3 fennel water and 1 liq. ammonii anisatus.

Emplastrum cantharidum contains less than half the cantharides of our blistering cerate, and is, we think, deficient in strength and unreliable. The process, however, is a good one: 1 part finely powdered cantharides is digested in a steam-bath for several hours in 1 p. oil of benne, and then 1 turpentine and 4 yellow wax added.

Emplast. cantharidum perpetuum and unguentum cantharidum are of about the same strength; the former consists of 6 turpentine, 6 mastic, 1 euphorbium, 2 cantharides; the latter of 1 powd. cantharides and 4 oil of benne, digested for 12 hours, strained and mixed with 2 yellow wax.

Emplastrum plumbi simplex is boiled, in the usual way, from 10 litharge, 9 lard, 9 oil of benne and 2 water. Benne oil is likewise substituted for olive oil in some ointments, and in plasters like emplastrum cerussæ and empl. fuscum.

The medicated plasters of our pharmacopæia are, as a general rule, stronger and prepared by a simpler process than those of the Swiss pharmacopœia; the narcotic plasters of the latter (empl. conii and hyoscyami) contain one-third of the powdered herb; empl. opii one-fifteenth powdered opium, while ours contain about the same proportion of the respective extracts.

The following is the composition of some of the compound plasters:—

Emplastrum frigidum s. meliloti comp.—Wax 2, suet 3, lead plaster 3, Burgundy pitch 4, and one part of the following mixture of powders: melilot, galbanum, olibanum, fennel, fenugreek, curcuma, in equal proportions.

Emplast. galbani crocatum.—Wax 8, lead plaster 24, powd. galbanum 24, turpentine 4, powd. saffron 3.

Emplast. hydrargyri.—Mercury 3, turpentine 1, lead plaster 8, wax 2.

Emplast. oxycroceum.—Wax 32, resin 32, powdered saffron 1, annatto 1, galbanum 4, ammoniacum 2, myrrh 2, turpentine 8.

Emplast. resinosum.—Wax 2, suet 2, Burgundy pitch 3, turpentine 4, resin 8.

Emplast. saponatum.—Lead plaster 24, white lead 16, soap 8, camphor 1, dissolved in 1 benne oil.

Emulsio amygdalarum is rather nicer than our Mistura amygdalæ; it is made of almonds 1, sugar 1, water sufficient to obtain 12.

Emulsio oleosa consists of oil of almonds 4, mucilage 6, water 32.

There are 57 extracts officinal in the Swiss pharmacopœia, of which number 2 are oleoresins, (cubebs and male fern), 16 are made with hot or boiling water, 7 with cold water, 23 with alcohol, and 2 only are inspissated juices. Hot water is used chiefly for bitter herbs, like wormwood, blessed thistle, centaury, &c. Quassia and rhatany yield a better extract, though not quite as much, if treated with cold water as directed by our pharmacopœia. It is strange that so many European pharmacopœias direct Extractum taraxaci to be made from the recently collected root and leaves, either by boiling or digesting it with water, while in this case it is more necessary than in many others to avoid the long continued application of heat.

The extracts of aloes, myrrh, cinchona (frigide paratum), gentian, liquorice, opium and rhubarb are made with cold water; the two first and two last are very properly evaporated to dryness.

The pharmacopœia prepares the narcotic extracts by exhausting the recently powdered leaves with alcohol of ·890; after the alcohol has been distilled off, the residue in the retort is allowed to rest in a cool place, the clear liquid is decanted and filtered from the separated chlorophyl and evaporated. These extracts are necessarily stronger than the alcoholic extracts of our pharmacopœia which contain all the chlorophyl taken up by the alcohol. Extractum aconiti, belladonnæ, conii, digitalis, hyoscyami, lacturæ virosæ and strammonii are made in this way, the

first five being also kept in a dry state by adding to two parts of the extract one of milk sugar and one of liquorice root, exsiccating at a temperature of 40 to 50° C., and adding enough sugar of milk to make the whole weight four parts, when it is reduced to powder.

Extractum chelidonii and juglandis nucum are the only two extracts made from the juice.

Among the alcoholic extracts we notice yet extr. arnicæ, made from a mixture of 1 part flowers and 2 parts rhizome; extr. aurantii, from the yellow rind; extr. calami, pimpinellæ, juglandis foliorum, scillæ, senegæ, etc.

Extractum colocynthidis compositum is not equal to the American, in which resin of scammony is used and all the aromatic properties of the cardamom preserved, though we believe it may be improved in appearance. The Swiss extract is obtained by exhausting with alcohol of ·890, one part powdered cardamom, 3 of soap, 4 of Aleppo scammony, 6 of pulp of colocynth and 12 of extract of aloes.

Extractum Rhei compositum consists of 1 resin of jalap, 1 soap, 2 extract of aloes, triturating with 4 alcohol, adding 6 extract of rhubarb and evaporating to dryness.

Extractum secalis cornuti is identical with ergotin of Bonjean.

Infusum sennæ, the Vienna draught, is the only officinal infusion.

Of the fourteen liquores, liquor ammonii acetici is made with caustic ammonia; liquor ferri sesquichlorati is a solution of the crystallized sesquichloride in its own weight of water; liquor hydrargyri nitrici oxydulati, a solution of 8 parts of protonitrate in 64 water and 1 dilute nitric acid; liquor kali acetici is obtained by neutralizing 5 p. carbonate of potassa with acetic acid and diluting to 21 parts. Liquor kali arseniosi contains $\frac{1}{90}$ of its weight of arsenious acid and is consequently one-fourth stronger than our Fowler's solution. Liquor kali caustici has a spec. grav. of 1·335—1·340. Liquor plumbi acetici is made by digestion and decantation, has a spec. grav. of 1·295—1·300 and contains about one-third more lead than our Goulard's extract. Liquor stibii chlorati is obtained from 2 black sulphuret of antimony and 10 hydrochloric acid; the solution is set aside for

several days, decanted, evaporated to three parts and mixed with one muriatic acid and sufficient water to obtain 8 parts.

Mellago graminis and taraxaci are solutions of the extracts in one-third water.

Mucilago salep is made with 5 grains to one ounce of water.

Olea cocta are made by macerating the herbs in one-half alcohol and then heating with 8 parts benne oil until all moisture has been evaporated.

Oleum sulfuratum is the old balsam of sulphur, made from 4 linseed oil with 1 sulphur; and a mixture of this with 3 parts oil of turpentine is officinal as oleum terebinthinæ sulfuratum.

Opodeldoc and opodeldoc jodatum are made with cocoanut oil soap; the latter contains about $\frac{1}{19}$ of its weight of iodide of potassium and is aromatized with oil of lemon.

Oxymel simplex is merely a mixture of 1 acetic acid with 18 p. honey. Oxymel colchici and scillæ are obtained from 2 p. of the vinegar, 2 sugar and 3 honey.

Pasta gummosa alba (marshmallow paste), pasta gumm. flava (jujube paste) and pasta liquiritiæ are officinal; also the following Pastilli (troches), namely, pastilli althææ, ipecacuanhæ ($\frac{1}{5}$ grain), kermetis ($\frac{1}{33}$ gr.), liquiritiæ, natri bicarbonici (1 grain), santonini ($\frac{1}{2}$ gr.) and menthæ, made by adding to 4 oz. sugar drops 16 drops oil of peppermint and 20 drops acetic ether.

Thirteen preparations under "pulvis," nine under "species" and sixteen under "spiritus," exclusive of spiritus vini, are officinal. Hoffmann's anodyne is the same as in continental Europe—3 p. alcohol and 1 p. ether.

The following is the formula for cologne water, spiritus aromaticus: Take one part of a mixture consisting of 6 oil of orange, 1 oil of orange flower, 12 oil of bergamot, 12 oil of lemon, 1 oil of lavender and 1 oil of rosemary; dissolve in 32 alcohol, add 8 water and distil 30 parts.

Spiritus camphoratus: 1 camphor, 9 alcohol, 3 water.

Spiritus saponatus: 4 soap, 9 alcohol, 7 rose water.

Spiritus sinapis: 1 oil of mustard, 60 alcohol.

Spiritus ætheris nitrosi: 12 alcohol, 3 crude nitric acid; distil 10 parts, neutralize the distillate with carbonate of magnesia, and rectify the clear liquid.

The other spirits are distilled from the drugs.

Among the 31 syrups, syrupus aurantii corticis, cinnamomi and croci are made with white wine. Syrupus chinæ is a solution of extract of cinchona dissolved in its own weight of Malaga wine and mixed with 50 p. syrup. Syrupus ætheris is a mixture of 1 ether and 16 syrup. Syrupus balsami peruviani and tolutani are made by digesting the balsams in water. Syrupus capillorum veneris, chamomillæ, diacodion, liquiritiæ, mannæ compositus, rhei, rhœados and violarum are hot infusions, preserved by sugar. Syrupus gummosus contains too small a quantity of sugar; the addition of a little orange flower water is an improvement. Syrupus ipecacuanhæ contains $\frac{1}{54}$ of ipecac. and is made by mixing a tincture made with alcohol of ·890, with syrup. It is rather weak and must separate some resinous matter. Syrupus ferri jodati is made by mixing syrupus ferri jodati concentratus with 12 parts syrup and contains in each ounce 4 grains of iodide of iron. Syrupus cerasorum, mororum, rhamni catharticæ and rubi idæi are made by fermenting the crushed fruits for several days, expressing and, after obtaining the juice clear, dissolving the sugar. Syrupus sarsaparillæ is made by maceration and decoction, and contain Honduras sarsaparilla, China root, guaiacum, sassafrass wood, Huanuco bark and anise.

Nearly all the 58 tinctures are made by maceration for a week with alcohol of ·890 spec. gravity and mostly in the proportion of 1 to 6. Tinctura dulcis is merely a solution of caramel made by boiling 1 acetate of potassa, 8 sugar and 4 water until a dark brown mass is obtained, which is dissolved in 6 water and mixed with 36 alcohol.

Tinctura jodi is of the strength 1:12, tinct. jodi concentrata 1:8 of absolute alcohol (sp. gr. 80—81). Tinctura opii and tinct. opii crocata (Sydenham's laudanum) contain each one-tenth their own weight of opium. Tinct. opii benzoica consists of powd. opium, camphor, benzoic acid and oil of anise, of each 1 part, alcohol of ·890 sp. gr. 192 parts.

Among the compound tinctures the following two may serve as specimens, the first being a very popular domestic bitters among our German population, and is said to be also the formula

for an extensively sold nostrum, sailing under the name of a celebrated European physician.

Tinctura aloes composita: Aloes 10 parts, agaric, saffron, myrrh, gentian, rhubarb, zedoary, of each 1 part, alcohol 160, water 40 parts.

Tinctura vulneraria acida: Chamomile, St. John's wort, lavender, wormwood, hyssop, marjoram, melissa, crisped mint, peppermint, rosemary, rue, thyme, saunders, fennel, of each 1 part; alcohol and water, of each 50 parts.

We consider it a step in the right direction that the use of olive oil, so common in European pharmacopœias, has been discarded almost altogether in this one. We have no experience with plasters made from benne oil; but for the 28 ointments, the adoption of lard instead of olive oil is proper. Unguentum simplex is 6 lard to 1 white wax, and we consider it preferable to our ung. adipis, which is rather stiff during our cold winters.

Unguentum belladonnæ, digitalis and hyoscyami are made by digesting the powder with three parts of alcohol, mixing the tincture with 4 lard and evaporating the spirit. Unguentum basilicum consists of benne oil, wax, suet, resin, black pitch and turpentine.

Unguentum Hydrargyri citrinum is almost identical with our citrine ointment, except that lard is the only fat used. Unguentum populi is made by digesting 2 p. poplar buds and 1 hyoscyamus in 4 lard; the presence of hyoscyamus, we think, ought to be indicated in the name.

Unguentum refrigerans is our ung. aquæ rosæ; but the unguentum rosatum consists of 4 lard, 1 wax and 1 rose water.

The officinal wines are vinum aromaticum, chinæ, colchici, stibiatum and ferratum. This last is a very uncertain and necessarily a very unsightly preparation, it being made by macerating 2 parts iron filings and 1 Ceylon cinnamon in 24 parts white wine.

In supplanting the numerous dispensatories, etc., which had been in use in the various Cantons of Switzerland, it was obviously unavoidable to recognize many preparations which are of little or no value, and which will undoubtedly gradually be dropped on future revisions. Looking at the whole work, how-

ever, we must confess that the Swiss pharmacopœia is almost in every respect up to our present knowledge, and while it eminated without any pretensions from a society, it must be classed with the best, and surpassing some at least which are revised and issued by governmental authority. It evidently knows its subject, it aims at simplicity, the language is clear and precise, the processes described with as few words as possible, but never leaving any doubt in the mind of the reader. We believe there are many points from which we can profit in the approaching decennial revision of our pharmacopœia.

JOHN M. MAISCH.

Philadelphia, Oct., 1867.

ON THE SUBLIMATION OF THE ALKALOIDS.

BY WILLIAM A. GUY, M.B., F.R.S., F.R.C.P.,
Professor of Forensic Medicine, King's College, London, etc.

(*Continued from p.* 436.)

I now proceed to examine those parts of the work of Dr. Helwig which relate to the sublimation of the alkaloids, premising that his inquiry is restricted to the eight poisonous alkaloids,—morphine, strychnine brucine, veratrine, atropine, aconitine, solanine, and digitaline.* To these bodies he applies the method of sublimation; and obtains, in the case of some of them, satisfactory and characteristic crusts, and in that of others crusts of less defined structure, but yielding equally characteristic reactions. He tells us that he has never used for this purpose a larger quantity of any alkaloid than the $\frac{1}{100}$ of a grain; and he adds that, in nearly all his experiments, he finds that quantity not only too large, but unfavorable to the beauty of the results. He obtains these small quantities by continued dilution and drop measurement. This method of sublimation he believes to be of the greatest value in its application both to metallic and to vegetable poisons, inasmuch, as by it a succession of hitherto quite unknown and highly characteristic data for diagnosis are secured; and he thinks that these assertions are made good in the chapters which treat of the poisons in detail.

* In strict chemical language, the last of the group, digitaline, is a glucoside, and not an alkaloid, a fact recognized by Dr. Helwig.

Let us then turn to these chapters, and see what information they afford as to the points upon which we should naturally wish to be instructed.

1. Under the head of *morphine*, we learn that the one-thousandth of a grain of this alkaloid is sufficient to give a perfectly serviceable sublimate; and that such a sublimate, besides yielding the same reactions as the solutions of its salts, assumes characteristic crystalline forms with distilled water, liq. ammoniæ, and dilute hydrochloric acid, these last of extraordinary beauty.

2. The sublimate obtained from *strychnine* is characterized by the quickness and beauty of its reactions with distilled water, liq. ammoniæ, dilute hydrochloric acid, and dilute chromic acid, of which the last yields results of extraordinary beauty and rare diagnostic value. The smallest quantity which will yield a sublimate is not specified.

3. *Brucine* does not yield such rich sublimates as the two preceding; but they are represented to have the same formation. Nor are their reactions so satisfactory. No distinct crystalline forms are developed by distilled water or liq. ammoniæ, and only evanescent crystals by dilute hydrochloric acid. Dilute chromic acid, or a solution of bichromate of potash, developes characteristic crystals, valuable as being distinct from the reactions of the same acid with morphine and strychnine. The smallest quantity not specified.

4. In *veratrine* we encounter the first alkaloid which yields a crystalline sublimate by Helwig's method. He describes these crystals as rhomboid,—rhomboidal prisms,—and four-sided plates arranged star-shaped; sometimes as *whetstone-shaped*. These crystals are best seen in the thinner sublimates. The reactions with distilled water, liq. ammoniæ, dilute hydrochloric acid, and dilute chromic acid, are not characteristic. The delicacy of the test of sublimation is not indicated. The odor of the sublimate is described as highly disagreeable and penetrating.

5. The sublimate of *atropine* contains neither crystals nor granules; and its reactions are uncertain and unstable. The vapor has a peculiar sweetish odor.

6. *Aconitine* also yields a non-crystalline sublimate, and of

the reactions only that with dilute hydrochloric acid yields crystalline forms.

7. *Solanine* yields eminently satisfactory results. The vapors have a most agreeable odor, and deposit crystals which are in the single form of needles springing from a point, and usually lying across each other as a network. The sublimate is so well defined that it alone suffices for the recognition of the alkaloid. Distilled water, liq. ammoniæ, and dilute chromic acid, yield no characteristic reactions; but dilute hydrochloric acid developes crystals after the lapse of 24 hours or more.

8. *Digitaline*, on the other hand, yields no crystalline sublimate; but the vapor has the characteristic odor of the drug. The reactions with distilled water, liquor ammoniæ, and dilute chromic acid, are of no value; but dilute hydrochloric acid, after 24 hours, and with delicate manipulations, appears to yield characteristic crystalline results. The other mineral acids also give characteristic, though delicate reactions.

It appears, then, that out of eight alkaloids chosen on account of their importance as poisons, two (*veratrine* and *solanine*) yield characteristic crystalline sublimates, by which they are at once distinguished from the remainder of this group, while two others (*morphine* and *strychnine*) in an eminent degree, and one (*brucine*) in an inferior degree, yield sublimates which give characteristic crystalline forms with reagents.

These are the first results of a method of procedure which, as I have already stated, admits of obvious improvement, and yields, when so improved, crystalline sublimates of strychnine and morphine of great beauty, and, as I shall soon have occasion to show, of great interest to the micro-chemist and microscopist.

The short notice of morphine given above is the only one of the eight which makes direct mention of the smallest quantity from which a sublimate may be obtained. A thousandth of a grain is specified, and it may be inferred from the statements made respecting other of the alkaloids (namely, that the quantity used will give a succession of five or six sublimates), coupled with the remark already cited, that the one-hundredth part of a grain is too large to yield clear and good results, that sublimates are obtainable from other alkaloids, as well as from morphine, by

using such quantities as the thousandth of a grain. Now, as it is quite obvious that in order to prove the utility of the method of sublimation we must begin by demonstrating its delicacy, I lost no time in ascertaining this point for myself by operating with the alkaloid strychnine. I had the one-hundredth of a grain of this substance weighed in a delicate balance, and, with common care, obtained fourteen successive sublimates, eleven before the change of color or melting of the alkaloid, and three afterwards. As the fifteenth sublimate was smoky, it was not reckoned, and the process was not carried further. Of these fourteen sublimates, eight showed crystalline forms under the microscope, and the rest were distinct and granular. Of this latter class I selected one, which certainly could not have weighed the fifteen-hundredth of a grain, and, having taken extreme precautions to ensure the absence of any trace of strychnine except in the crust, obtained from it two well-marked sublimates, showing beautiful crystalline forms under the microscope, a third distinctly granular, and reacting most characteristically with one of the liquid reagents, and a fourth and fifth quite distinct, but neither crystalline nor granular. The glass from which the sublimates had been driven off retained a visible stain. If, then, we reject the last two crusts, we still have a sublimate consisting of $\frac{1}{500}$ grain, yielding three characteristic deposits. So that a quantity as small as $\frac{1}{1500}$ grain would yield abundant evidence of the presence of strychnine. I repeated this experiment with another smaller crust of the same series of fourteen, and obtained two well-marked crystalline sublimates. So that I am able to state that a crust not weighing more than the fifteen-hundredth of a grain will yield other crusts, two or three in number, having the unmistakable characters of strychnine sublimates, and one or other of which must weigh as little as from the three-thousandth to the five-thousandth part of a grain.

Out of this conclusive experiment arose a question of great interest: Could such sublimates be obtained from small quantities of strychnine deposited from solutions of the alkaloid—from such solutions as would be formed in the course of medico-legal investigations? The fact stated above, that Dr. Helwig ascertained the quantities of the alkaloid submitted to sublimation by

dilution and drop-measurement, goes far to answer this question; but I sought a more complete answer by dealing with a small and thin deposit from a solution of strychnine in benzole, which deposit did not present any definite crystals when examined by the microscope. Comparing it with the sublimates on which I had just been experimenting, I should estimate its weight as not exceeding the fifteen-hundredth part of a grain. This spot gave four successive sublimates having the crystalline form of strychnine.

In both these cases, whether operating with the sublimate or with the deposit from solution in benzole, the procedure was perfectly simple, and the result apparently certain. The alkaloid does not melt, but sublimes as a deposit of arsenious acid from a solution in water does. The flame of the spirit-lamp was continuously applied to the glass disk, a shallow glass cell with wide opening was superimposed so as to surround the spot, and the sublimate was received on a second glass disk, carefully cleaned and dried by being passed through the flame of the lamp.

There are other preliminary questions not raised in Helwig's work, but which are too important to be overlooked. Is sublimation a property of the alkaloids and the allied active principles as a class? is one of these. I sought for an answer to this question by preliminary experiments with thirty-seven substances, in which were comprised all the active poisons and medicines; and I found that, at the first experiment, no less than fifteen out of the thirty-seven gave distinct crystalline sublimates. So that it may be safely asserted that upwards of one-third of these substances respond to the test of sublimation. The remainder, after melting, like the rest, (cantharidine excepted, which sublimes without melting) gave off vapor which was deposited on the glass disk as watery patterns, generally mixed with crystalloids. Now, as even those alkaloids which ordinarily yield crystalline sublimates do exceptionally furnish these watery patterns, it is not improbable that the list of substances giving sublimates of more defined form would be extended by repeating the experiments with them, and learning by practice the temperature which suits them best. Indeed, I have already

found that by multiplying experiments with the members of the opium group, I have transferred three of them (papaverine, narceine, and paramorphine) from my list of alkaloids not yielding crystalline sublimates to that of alkaloids which afford such sublimates, at least occasionally. If to the alkaloids which give characteristic sublimates we were to add those which, though not characteristic in form, give peculiar reactions, we should probably find that more than half of all these substances are recognizable through the form of their sublimates, or through their reactions with liquid tests. Sublimation, then, may be safely added to the list of those properties of the alkaloids which go to make up a complete description.

But it may be asked:—Is this property of sublimation by heat and deposit on cooler surfaces the exclusive possession of a small group of metallic poisons (such as arsenious acid, calomel, and corrosive sublimate) and the alkaloids and analagous active principles? We already know that an animal product, cantharidine, sublimes unchanged, and deposits itself in very distinct crystalline forms; and that camphor sublimes at common temperatures, and settles on glass bottles and shades in beautiful octahedral crystals; and I may add, as a sufficient present answer to the question, that I obtain crystalline or other well-marked deposits from urea, uric acid, hippuric acid, alloxan, and uramile; and from benzoic, tannic, iodic, and tartaric acids, these being substances which I happen to have at hand.

It may, therefore, be safely affirmed that sublimation and deposit on cooler surfaces (often in forms eminently characteristic, and with changes of form and color not less striking) are properties not only of arsenious acid, corrosive sublimate, and a small group of inorganic substances to which it was first applied, and for which I devised the simple procedure already described, but also of a vast number of organic products, among which the alkaloids and active principles constitute only one class.

There is still one more preliminary question, to which Dr. Helwig does not refer, but which is both interesting and important; namely, do the salts of the alkalies yield sublimates as well as the alkaloids themselves? An answer to this question, sufficient for my present purpose, is furnished by the statement

that the acetate, nitrate, hydrochlorate, sulphate, and phosphate of strychnine afford sublimates, and that one such sublimate from the acetate is not distinguishable from a well-marked crystalline deposit obtained from the alkaloid itself. I also procured sublimates from acetate of morphia, from sulphate of atropine, and from the sulphates of quinine and quinidine.

It appears, then, that these important preliminary results have been already arrived at:—

1. That the test of sublimation is easy of application, and successful with very minute quantities of the alkaloids.

2. That sublimates may be obtained not only from the alkaloids themselves, but also from deposits furnished by their liquid solutions.

3. That the salts of the alkaloids yield sublimates.

4. That the properties of sublimation by heat and deposit on cooler surfaces are common to a large number of substances both inorganic and organic.

5. That as probably one-half of the alkaloids and allied active principles yield characteristic sublimates, sublimation ought to be admitted among the recognized properties of these bodies as a class.

These propositions, however, are but the preliminaries of an inquiry which demands the utmost patience, care, and circumspection, and which, if I do not greatly mistake the indications I have already obtained, will add largely to our knowledge by many new facts, as well as by some corrections of statements too hastily put forward.

In my next communication I shall endeavor to point out the precautions which we must observe if we would turn this newly-discovered property of the alkaloids to practical account. These precautions must be recognised and acted upon before we proceed to the examination of individual members of the class.—*London Pharm. Journ.*, July, 1867.

ON BURGUNDY PITCH.

By Daniel Hanbury.

The authors of the British Pharmacopœia have defined Burgundy Pitch (*Pix Burgundica*) as *a resinous exudation from the*

stem of the Spruce Fir, Abies excelsa, D. C. (*Pinus Abies*, L., *P. excelsa*, Lam.), *melted and strained*. They have thus followed the London College of Physicians, which for nearly a century and a half has included this substance in its Materia Medica, indicating in the latter editions of its pharmacopœia a similar botanical origin.

On the Continent the term *Pix Burgundica* (which is not frequently applied) appears to have a less definite signification than with us, being used synonymously with *Resina alba*, to designate the resins of various coniferous trees after purification, by being boiled in water and strained. The following description is translated from one of the more recent and esteemed works on pharmacology, that of the late Dr. Berg:—*

"White Resin, White Pitch, Yellow Resin, Yellow Pitch (*Weisses Harz, weisses Pech, gelbes Harz, gelbes Pech*), Resina s. Pix flava s. citrina.

"It is obtained by melting common resin, with the frequent additions of water, and subsequently straining. According as the melting has lasted a longer or shorter time, the resin remains paler in color, and constitutes *White Resin*, or becomes darker, and is called *Yellow Resin*, and is thereby richer or poorer in oil of turpentine. The first, owing to the water which it contains, is almost entirely opaque, white, brittle, and becomes gradually yellow. The second, through the formation of a little colopholic acid, by reason of the longer melting, is of a yellow, dark yellow, or brownish, color, very brittle, here and there clear, and has a conchoidal, glassy fracture. An inferior kind, called *White Pitch*, is obtained from the resin that is first produced in the manufacture of tar, and has a brownish yellow color. The true *Burgundy Resin* or *Pitch*, (*Resina s. Pix Burgundica*) is the similarly prepared resin of *Picea excelsa* and *Pinus Pinaster*, which is brought into commerce in the form of dull, dirty-yellow, brittle masses, of a glassy fracture, softening in the hand. Ordinary Burgundy Pitch is White Resin, which has been gently melted for a short time without the addition of water, so that it is in fact freed from a part of its water, but has not yet acquired the brown color of colophony."

* *Pharmazeutische Waarenkunde*, Berlin, 1863, p. 566.

In France, as in England, the term *Burgundy Pitch* (*Poix de Bourgoyne*) is by the more accurate writers restricted to the melted and strained resin of the spruce fir, of which substance the following description is given in the last edition of the Codex:—

Translation.—Burgundy Pitch is of brownish yellow, solid and brittle in the cold, flowing when warm, very tenacious, having a peculiar odor, and an aromatic taste without bitterness; not completely soluble in alcohol in the cold. There is frequently substituted for it another product called white pitch (*poix blanche*), prepared with *galipot*,* or a mixture of yellow resin and Bordeaux turpentine, melted and mixed with water. This artificial pitch has a strong smell of Bordeaux turpentine, and a very marked bitter taste. It is entirely soluble in alcohol.

Where is then true Burgundy pitch manufactured? Is it actually met with in commerce? By what characters may we judge of its purity?

The authors of the British Pharmacopœia mention it as a production of Switzerland, where the spruce fir is certainly found in great abundance. But I have it upon excellent authority—that of my friend, Dr. Flückiger, of Bern—that at the present time no terebinthinous resins are collected in Switzerland for commercial purposes. Neither is true Burgundy Pitch produced in France, as its name would seem to indicate, *Pinus maritima*, Lamb. being, in fact, the only tree the resin of which is collected in that country as an industrial product. The name *Burgundy Pitch* seems, in fact, to be a complete misnomer, no such substance having been ever produced in Burgundy. Pomet, writing in 1694, thus speaks of "*Poix grasse ou Poix blanche ou Poix de Bourgoyne*":—

"On fait fondre le Galipot avec tant soit peu d'huile de Terebenthine, et de la Terebenthine commune, et ensuite c'est ce que nous appellons *Poix grasse*, ou *Poix blanche de Bourgoyne*, à cause que lon prétend que la meilleure et la prèmiere s'est faite à saint Nicolas en Lorraine: ce qui est tout le contraire d'au-

* *Note by Translator.—Galipot*, dry resin, collected in France from the trunks of *Pinus maritima*, Lamb.

jourdhui: car la meillure poix grasse vient de Holland et de Strasbourg, d'ou nous la faisons venir."

Knowing these facts, and having failed to gather any precise information from pharmacological writers as to the districts where the resin of the spruce fir is an object of industry, it was with some interest that I examined the various collections of forest products in the French Exhibition. Nor was I disappointed, for, among the contributions from Finland, I discovered a suite of specimens illustrating this very subject. Baron Linder, of Svarta, near Helsingfors, is the exhibitor of the resin of the spruce fir in two forms, namely:—

1. The crude resin as exuded from the trunk of the tree, and described in the following words:—"*Barras* ou gomme concrète, adhérente aux sapins (*Pinus Abies*). Produit brût servant à la fabrication de résine, etc., etc. Prix 12 francs les 100 kilogr."

2. The resin purified by melting in contact with the vapor of water and straining. It is thus described on the label attached to the specimen:—"*Resine jaune* cuite (à vapeur d'eau à chaleur modérée) de *barras* de sapin (*Pinus abies*). Prix 40 francs les 100 kilogr.: production annuelle 35,000 kilogr."

Of these two resins, the first is not found in English commerce; the second constitutes genuine Burgundy pitch, precisely such as may be bought in the London market. The quantity of this purified resin produced annually, it will be observed, is very considerable, being equivalent to 77,000 lbs., or more than 34 tons weight. Baron Linder is likewise an exhibitor of the crude resin of *Pinus sylvestris*, of the same in a purified state, of oil of turpentine, Iceland moss, and a few other productions of Finland.

The Paris Exhibition shows that true Burgundy pitch is also produced in Germany. Mr. J. G. Müller, of Löcherberg, near Oberkirch, in the Grand Duchy of Baden, has taken the trouble to exhibit an instructive and complete series of large specimens in illustration of the products of the spruce fir, comprising:—

1. Portion of a stem of *Abies excelsa*, about four feet long, treated for the production of resin. This stem has had cut in it, longitudinally, at equal distances, four even and regular channels, an inch and a half wide, and of the same depth; from the

sides of these channels the resin exudes, and is scraped off with an iron instrument made for the purpose.

2. The crude resin, (*Roh-Harz*), as scraped from the stem, contained in the original triangular bark-basket used in the country.

3. *Wasser-Harz.* This has been obtained by boiling in water and pressing the crude resin. It is grey and opaque; contains much water, and is identical with an impure but genuine Burgundy pitch sometimes found in the London market.

4. *Gereinigtes Fichtenharz, Resine purifiee.* This is No. 3 in a purified condition, or, as we should call it, *True Burgundy Pitch* in its purest condition.

In addition to these specimens, Mr. Müller also exhibits samples of resin prepared for the use of brewers, who in Germany employ resin (*Brauerpech*) for coating the inside of beer casks.

Another exhibitor of genuine Burgundy pitch is Mr. Theodor Müllner, of Hinter Brühl, Post Mödling, near Vienna, who shows *Fichtenharz*, or crude resin of the spruce fir, and *Fichtenpech*, which is the same in a purified condition. The latter may be regarded as a type of good Burgundy pitch.

These contributions to the Paris Exhibition show that the resin of the spruce is collected for trade purposes in Finland and in Germany, and in the first-named country upon a very considerable scale. It does not, however, appear that it is ever termed *Burgundy Pitch* in the places where it is produced.

Although genuine Burgundy pitch (usually, it must be admitted, in a very impure state) has been always obtainable in the London market, it is rarely found genuine in the shops, an artificial compound being very generally supplied in place of it.

This artificial Burgundy pitch is of most variable appearance. In examining eight samples of it, I find that in my notes I have described it as dull tawny, bright tawny yellow, bright yellow, brilliant orange yellow, or bright orange brown. Some samples have a dull, wax-like fracture, others a more or less shining or conchoidal fracture. Some exhibit when broken numerous cells, containing air or water, others are more compact. All are more or less opaque, but become transparent on the surface in the course of time by the loss of water. All the samples have

a weak, terebinthinous odor, not one possessing the fragrance of true Burgundy pitch. All are free from bits of stick and such like impurities, which are frequently found in the genuine drug.

I am not in the secret of the manufacture of this artificial Burgundy pitch, for which, indeed, each maker must have his own formula. According to common report, however, it is formed by melting together common resin with palm oil, or some other fat, water being stirred into the mixture to produce an opaque appearance. In examining the characters of genuine and spurious Burgundy pitch, I have noted the following differences:—

True Burgundy Pitch.	*Artificial Burgundy Pitch.*
Color, dull yellowish brown; fracture, shining, conchoidal, translucent; some samples contain much water, and are opaque, and of a dull grey color, and require straining to free them from impurities. Odor peculiarly aromatic.	Color usually more brilliant than that of the true Burgundy pitch. Odor weak and hardly aromatic.
Not wholly soluble in alcohol of ·838, but leaves a small amount of fine white flocculent matter.	Still less completely soluble in alcohol of ·838.
Placed in contact with double its weight of glacial acetic acid in a vial, is dissolved with the exception of a small amount of flocculent matter.	Similarly treated forms a turbid mixture, which soon separates into two layers,—a thick oily liquid above, and a bright solution below.

The foregoing characters apply to most of the artificial Burgundy pitch which I have examined, and may be useful, so far as they go, for distinguishing the genuine from the spurious. The odor of true Burgundy pitch is in itself an excellent criterion which cannot be conveyed by description. Solubility in glacial acetic acid serves to reveal the presence of fatty matter, which is a common, perhaps an essential ingredient in the artificial Burgundy pitch made in this country.

From what has preceded may be deduced the following

CONCLUSIONS.

1. True Burgundy pitch is the melted and strained resin of *Abies excelsa*, D. C.

2. An artificial compound is usually sold in lieu of it, both in this country and on the Continent.

3. True Burgundy pitch is produced on a large scale in Finland, also of very fine quality in Baden and in Austria.

4. True Burgundy pitch differs palpably from the artificial, and may be easily distinguished from it.—*London Chemist and Druggist*, Sept. 14, 1867.

ENGLISH MEDICINAL RHUBARB AND HENBANE.

By Rufus Usher, Esq.

Although the introduction of medicinal rhubarb into England is dated by Parkinson as far back as 1629, no real experiments of its culture and preparation for medical use appear to have been made till 1762, when a quantity of seed was sent from Russia, by Dr. Mounsey, from which period till about 1800 it was successfully grown in small quantities by many scientific men, after which it was cultivated at Banbury on an increasing scale, and is now known in the commercial world as a general article of trade; and not only is it consumed in considerable quantities in this country, but it is exported largely to various parts of the civilized world. The origin of the plantations of rhubarb in my possession, and now extending over forty acres, will be best traced by the following extracts from the "Transactions of the Society of Arts." In 1789:—"The Society, in consideration of his merit, and to promote as much as in them lies the growth and cultivation of so valuable a drug, voted their silver medal to Mr. Hayward, as a bounty." In 1794:—"The following accounts and certificates respecting the growth and cure of rhubarb having been received, the gold medal, being the premium offered for cultivating the greatest number of plants, was adjudged to Mr. William Hayward, of Banbury." The following is the testimony of Dr. Pereira:—"In 1789 Dr. Hayward obtained a silver medal, and in 1794 a gold medal, from the Society of Arts, for the cultivation of English rhubarb. Dr. Hay-

ward died in 1811, and the plants were purchased by Mr. P. Usher."

As a proof that even at this early period of its cultivation English rhubarb had obtained the confidence of scientific men, it may be stated that, in 1798, rhubarb of British growth was used at St. Bartholomew's, St. Thomas's, and Guy's Hospitals, and was being experimented on at several others. According to the testimony of Sir Alexander Dick and Dr. Hope, of Edinburgh, in 1784, but little rhubarb was used by the apothecaries of that city but what was produced in Scotland, and it was considered in no respect inferior to Russian. About the same time English rhubarb was put to a severe test at Bath, by Drs. Falconer, Parry, and Fothergill, all of whom attested its merits. Dr. Falconer remarked that two of the specimens submitted to them answered in external marks to the character of the foreign; that they were rather inferior in delicacy of taste to the Turkey, but superior in other respects to East India. In 1810, Dr. Thornton, then lecturer on botany at Guy's Hospital, referring to the encouragement given to the cultivators by the Society of Arts, makes these remarks:—"This account may serve to show both the ardor of the respectable Society in encouraging the growth of this useful article and the persevering industry of some gentlemen in overcoming all the difficulties attendant on introducing a new plant into cultivation—finding out the means of curing it as an article for extensive sale, and overcoming the prejudices of such as cannot persuade themselves that a drug of British growth can bear competition with what is sent us from foreign countries."

If at a later date the prejudice against English rhubarb having increased, there must have been other causes than those existing in the first introduction of the plant. One cause of the subsequent change in public opinion may have arisen from the partial introduction of new varieties of the plant. From the earliest period in its history there appears to have been a confusedness in the evidence as to its real character; and whether foreign rhubarb is produced from the *Rheum palmatum* or the *Rheum undulatum*, yet remains an unsettled question. As far as this question relates to rhubarb grown in Great Britain, the stronger

probability is, that, after it was imported, several varieties were produced by repeatedly propagating from seed, when a discrepancy was observed, at variance with the earliest descriptions recorded. To show the extent of those changes, I may remark that in the last instance in which I noticed the effect of seedling cultivation, about thirty years since, I found the stalks and leaves more than double the size of those produced from offsets —a circumstance sufficient to account for the introduction of such varieties as the Victoria and other large sorts now so common in our gardens, and which, when propagated from seed, still keep working change upon change. So convinced have I been for a long time of the injurious tendency of this system, that I have studiously avoided the use of seed altogether; and the plant has so far receded to its original type, that not one has produced ripened seed during the last twenty years. It is a fixed trait in the cultivation of medicinal rhubarb, as it is in most bulbous plants, that if produced from offsets only, it ceases to produce seed, and if raised from seed, each succeeding generation produces seed also, adding variety to variety almost indefinitely. Assuming, as an incontrovertible fact, that the plant has now for such a lengthened period been propagated from offsets as to be incapable of bearing seed, it will guarantee the conclusion that if, during a number of years, when its cultivation was pursued by a large number of growers, for the purpose of making experiments, and each one, in haste to enlarge its growth, resorted to seed propagation, it degenerated from external causes, it is equally logical to infer that, the causes having ceased which led to its deterioration, it has now regained its specific distinctiveness, and is not likely to diverge again into any transition from its central type. It is thus quite possible to account for the previous deterioration of the plant for medical uses, which caused the strong prejudice existing for many years against it, and some remaining doubts are still expressed respecting the real properties of English rhubarb; but that a powerful reaction has taken place in its favor since the plant has been restored to its primitive form of development, there is most ample testimony, not only in the increased demand for it at home and abroad, but in the evidence of eminent medical practitioners. In addition to

the improvement which became apparent in the plant by the entire exclusion of seedlings, an important change has been effected in the mode of drying, by exchanging a high artificial temperature for a more gradual one; the process in the first stages being effected by the application of a strong current of atmospheric air, which has not only greatly condensed the root, and rendered it less porous, but has given it an appearance approximating more closely to foreign.

The progressive but certain destruction of all former prejudices existing against the use of English rhubarb may be adduced from facts much stronger than theory. The first is that as recently as 1845, the extent of land appropriated to the cultivation of the plant did not reach ten acres, whereas now it has reached upwards of forty acres, and even this is quite insufficient to supply the foreign demand for trimmed English rhubarb. If the home consumption of this drug had remained stationary, the export trade alone would have afforded every facility for extending the plantation—a fact most strikingly shown by the article being sent to ports, such as Odessa, from which East India rhubarb is sent to Great Britain.

Even where regulations of the most stringent character have been put in force to prevent the use of either inferior or adulterated drugs, English rhubarb has passed the ordeal in safety. The following is a portion of one of the statutes of the United States of America, entitled, "An Act to prevent the Importation of Adulterated and Spurious Drugs and Medicines." Thirtieth Congress, Chapter 70th, date 1848; Section 1st provides:—"That from and after the passage of this Act, all drugs, medicines, medicinal preparations, etc., imported into the United States from abroad, shall, before passing the Customs-house, be examined, as well in reference to their purity and fitness for medical purposes, as to their value and identity specified in the invoice." Section 3d provides:—"That if, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, are found, in the opinion of the examiner, to be so far adulterated or in any manner deteriorated as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German phar-

macopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the Customs-house unless, on a strictly analytical character called for by the owner or consignee, the return of the examiner shall be found erroneous." To carry into effect the provisions of this Act, qualified examiners of drugs were appointed, at salaries varying from one thousand to sixteen hundred dollars per annum, at the ports of New York, Boston, Philadelphia, Baltimore, Charleston, and New Orleans.

A large portion of my trimmed rhubarb for several years passed through the hands of Messrs. David Taylor & Sons, for shipment to the American market, where it became a regular article of commerce.

From the year 1855 to the present period the demand for English rhubarb has far exceeded my means of supplying it; and the ratio in which the increasing demand is taking place far exceeds the propagating capacity of the plant. The period when the rapidly increasing demand for export took place was that immediately succeeding the investigation of the question by a Committee of the House of Commons, during the sessions of 1855 and 1856. It will be recollected that a committee was appointed, of which Mr. W. Scholefield, member for Birmingham, was chairman, to invest the question of adulteration of food, drink, and drugs. During the sitting of this committee a large number of witnesses were examined on the question of English rhubarb, with varying results as to the individual opinion of the parties examined. Some, amongst whom may be named Dr. Hassall, contended it was practicable to carry out a system of absolute purity in drugs and chemicals; whilst others, with equally practical views, contended that a classification as to the quality of those articles must always exist. I need scarcely say that the evidence adduced on the question of the adulteration of drugs, as of other things, was very conflicting and inconclusive. At the commencement of the second session occupied by the committee in this investigation I was summoned, on the 5th of March, 1856, to give evidence on the long-vexed question of English rhubarb; but both as regards my own and the evidence

of other parties, which fully shows the importance of the question raised, I can do no more in this paper than refer the reader to the Blue-book for an exposition of the whole affair. But to show that my position was not damaged by the result, I quote the following words of the chairman of the committee at the close of my examination:—"If it be represented to the committee that English rhubarb is sold as an adulterating article, and is of a very inferior quality to foreign, that is a mistake; for medical men attribute very important medicinal qualities to English rhubarb, and it is consumed in some important public establishmens, and is held by very high medical testimony to be an exceedingly useful medicine." One of the public establishments referred to here is the London Hospital, where English rhubarb alone had then been used for a number of years. The inquiry carried on before the committee was kept alive, to a great extent, owing to what was represented to be the extreme difference in the money value between foreign and English rhubarb; and it was on this point that I had to complain of some unfairness. One witness stated the difference as great as between 11*s.* per pound on the one side and 4*d.* on the other. Here the retail price of foreign was quoted, the average wholesale price of China rhubarb for the two months previous being only 5*s.* 6*d.*, whilst as to quality, the maximum of one was set up against the minimum of the other, as I was, at the very time the evidence was taken, entering English rhubarb for shipment at 2*s.* per pound to Messrs. Taylor, Brothers, Mark Lane.

A great error, almost invariably committed in passing judgment on any article of supposed inferiority, is to judge it by an improper standard. This has been strictly so in the present instance. To show that one sample is of bad quality is certainly not proving that another is good; but when an attempt has been made to prejudice the public against the use of English rhubarb, it has sometimes been done by putting it into competition with the very choicest specimens of the foreign article; and I believe that all the comparisons, including the testimonials also, have been made on this principle. If it is true that a great difference exists in samples of drugs generally, it is yet more so in those of foreign rhubarb. It is well known that but a very small propor-

tion of imported rhubarb is of the best quality. This fact did not escape the notice of Dr. Pereira. He remarked that when China or East India rhubarb arrives in London, it is hand-picked, tared, and sorted into three qualities—bright and sound, dark and horny, and worm-eaten. He adds the following evidence on this point:—"In 1840, when China rhubarb was very scarce, a quantity of foreign rhubarb, imported from Calcutta, was sold, some at 4*d.* and some at 1*d.* per pound." As the evidence arising from dissimilarity of price has been used as an argument to show the inferiority of English to foreign, the following facts deserve notice:—In the years 1846 and 1847, there was a very large quantity of foreign rhubarb disposed of, amounting to several tons weight, and such was its general quality and condition, that the terms made use of to designate it, with the prices realized, were as follows:—Old and bastard, at ½*d.* to 1½*d.* per pound; old brown and rotten, 1*d.* to 4*d.*; rotten and damaged, 3*d.* to 5*d.*; brown, old, and perished, 1*d.* to 6*d.* During these periods large quantities of English rhubarb were sold at from 1*s.* to 2*s.* per pound. Thus it is seen, that if the maximum price of foreign is higher than English, the minimum price of English is higher than foreign. Whatever, therefore, may be supposed to be the relative difference between English rhubarb and the best specimens of foreign, it is clear that, owing to the very imperfect method of curing it in those countries where it is produced, there is invariably that strict uniformity of character in the one which is as invariably wanting in the other.

One leading question relating to this most important medicinal production yet remains to be solved at some future period, namely, whether the plant from which foreign rhubarb is produced is the best that could be selected? Judging from the very great variety and very interesting specimens in the possession of Dr. Hooker, all of them distinctly differing from each other, it would appear doubtful if the foreign cultivators have made such researches and instituted such experiments as would lead to a judicious selection of the best sorts. It is also highly probable that, if offsets could be obtained from a number of the several varieties of the plant produced in Tartary and elsewhere, we might acclimatize some yielding higher medicinal properties

than any yet cultivated in Great Britain; but as the means of obtaining them is entirely out of my power, I can only say, that if I could be assisted in procuring them, I should feel great pleasure in carrying out such a series of experiments as might ultimately render an important addition to the medicinal productions of the nation.

My attention has recently been called to the subject of the preparation of that very important medicine, tincture of henbane, in consequence of the very erroneous views entertained with regard to the quality of the plant, and to the somewhat scanty, if not imperfect directions, contained in the new Pharmacopœia respecting its preparation for use. It is out of my province altogether, as a grower and preparer only of medicinal plants, to call in question the correctness of the Pharmacopœia from any other point of view than that of an omission. The directions given in this work for the preparation of tincture of henbane are, to use "the leaves and branches of the indigenous biennial plant dried, when about two-thirds of the flowers are expanded." Now I believe that almost every wholesale druggist in the kingdom will endorse my statement, when I say that up to the year 1862 but a fractional part of the tincture of henbane prepared in this country was made from the blossoming biennial plant; a circumstance not so much reflecting discredit on those who prepare and supply the article for use, as arising from the absolute impossibility of procuring the material to carry out the instructions of the Pharmacopœia. If the question is asked, why the blossoming biennial plant had not, up to that period, been produced in sufficient quantity to supply the demand, I reply that, owing to the almost invariable attack made on the plant during the autumn and winter months by the wireworm, slug, and other destructive visitants, but a small proportion survives till the ensuing spring. Either the root is bitten through in several places or the bud entirely consumed. To this it must be added, that of the plants which escape this ordeal, when they have reached the stage of their development pointed out in the Pharmacopœia, namely, "when two-thirds of the flowers are expanded," the quantity of foliage is very scanty, and it will only pay the producer at a high price.

Through some erroneous impression, that has long existed, and still continues to exist, respecting this very important plant, the first year's growth is spoken of as the annual, than which nothing can be more palpably wrong, as the two articles, when prepared for use, vary as essentially in their external appearance as in their constituent properties; applying this simple test only, that the annual plant, when dried, consists both of leaves and blossom, whereas the first year's growth of the biennial must necessarily consist of leaves only. Assuming that, when the second year's growth of the biennial plant cannot be procured, recourse must be had to the first year's growth as a substitute, the Pharmacopœia should have made known the comparative strength of the latter. No objection could have been made to such directions, when it could be shown that a second-class article must of necessity supplant a superior one, as occurs, doubtless, not only in this but in many other medicinal preparations. If, in the use of the two separate articles now under consideration, the same instructions are carried out, namely, to use two ounces and a half of the dried plant for a pint of tincture, and one should prove to possess two or three times the strength of the other, it assumes a serious aspect in the administration of so very important a medicine. We require a new definition altogether of the plant when dried for use. Instead of making two divisions only, as at present, annual and biennial, it should be classified as follows:—

Biennial henbane of 2d year's growth. British annual henbane.
Biennial henbane of 1st year's growth. German henbane.

This would at once simplify the question, and prevent those erroneous views which have very widely prevailed amongst all parties concerned in its preparation and use. It will be seen that I have arranged the above classes in the order of their value. The two last mentioned—the British annual and the German—although most extensively used, are so thoroughly undeserving notice, that they require mention only to guard the public against their use altogether. Of these two, the British annual is perhaps preferable to the foreign, and its appearance, unfortunately, approximates sufficiently close to the second year's growth of the biennial plant to enable the vendor to pass it as

such; but if no other criterion existed than that it possesses no flavor or aroma, that would be sufficient to detect the imposture. Independently of this test, the leaves will be found much shorter; and occasionally will be seen a pure primrose blossom, which never occurs in the beautifully streaked blossom of the biennial; but the very fact of the appearance of blossom in the sample, that blossom being generally so much like the blossom of the biennial, leads to the very erroneous conclusion that it is the same plant.

Owing to the extreme price which the dried biennial plant of the second year's growth has realized in former years, the consumers have not given that encouragement to its production which its intrinsic value merits. The great difficulty, however, which has thus been felt till very recently—that of not being able to obtain a supply except at a most exorbitant price—is now to a great extent obviated. From a long, careful, and continuous study of the cultivation of biennial henbane, I have at length so far succeeded in preserving it from the attacks of insects, to which it is ordinarily subject, and have to such an extent economized the system of drying the plant, as now to bring the price within reasonable bounds, and to leave those who prepare the tincture of this valuable plant without any just excuse for using an inferior article.

This is not an age in which scientific research can be long baffled in its inquiries; and as the articles in question will be placed before the public in the Paris Exhibition of 1867 (class 44), no more will be anticipated from their inspection by a competent tribunal than the closest scrutiny will justify.—*London Pharm. Jour., Aug.*, 1867, *from the Jour. of the Soc. of Arts.*

NOTES ON TINCT. OPII AND LIQUOR OPII SEDATIVUS.

By Mr. Alfred Southall (Birmingham).

In continuation of a subject which was brought forward at the last meeting of the Conference, viz., the analysis of various specimens of ordinary commercial opium; in order further to show the extremely uncertain medicinal value of different samples, I have since examined a variety of specimens of tincture of opium, some of which have been kindly forwarded to me by Dr. Attfield. These specimens were, I believe, procured indiscriminately from

the establishments of various pharmaceutists, and show a variation in strength which may well rather alarm the prescriber for the welfare of his patient.

Taking the standard of strength required by the British Pharmacopœia, which states that 100 grains of opium should yield at least 6 to 8 per cent. of morphia, the consequent strength of tincture of opium B. P. should be not less than 0·5 per cent. of morphia. The following is my result of nine samples of tincture:

No.	1	specimen	contained	0·3	per cent. of morphia.
"	2	"	"	0·5	" "
"	3	"	"	0·6	" "
"	4	"	"	0·5	" "
"	5	"	"	0·2	" "
"	6	"	"	0·5	" "
"	7	"	"	0·4	" "
"	8	"	"	0·7	" "
"	9	"	"	0·5	" "

Good commercial opium, such as is commonly found in the English market (as our analysis last year showed), contains frequently as much as 10 to 13 per cent. of morphia; and the Pharmacopœia laying no restriction upon a maximum yield of morphia, opens a wide door for a great diversity in the strength of its opium preparations, so that a tincture yielding from ½ to 1 per cent. of morphia is within the Pharmacopœia limits.

The letter which was lately addressed to the *Pharmaceutical Journal* by Mr. J. T. Miller, of Sheffield, on the value of the British Pharmacopœia tests for opium, is well worth perusal.

Although Liq. Opii Sedativus is not officinal, yet this form of administering opium is scarcely less important than the tincture. It is, however, interesting to notice in the analysis of the eight following samples that the same wide diversity exists:

No.	1	specimen	contains	·6	per cent. morphia.
"	2	"	"	1·2	" "
"	3	"	"	·7	" "
"	4	"	"	1·0	" "
"	5	"	"	·5	" "
"	6	"	"	·8	" "
"	7	"	"	1·5	" "
"	8	"	"	1·1	" "

—*London Chemist and Druggist*, Sept. 14, 1867.

Minutes of the Philadelphia College of Pharmacy.

The semi-annual meeting of the Philadelphia College of Pharmacy was held at the College hall on the evening of the 30th of September, fourteen members present. In the absence of the President, the second Vice-President, Dillwyn Parrish, presided.

The minutes of the last meeting were read and approved; the minutes of the Board of Trustees were read by Wm. J. Jenks.

Prof. Procter, one of the delegates of the College to the International Pharmaceutical Congress, which assembled in Paris in August last, read the following report of the proceedings of that body, which was accepted and directed to be published.

To the Philadelphia College of Pharmacy:

The undersigned, one of your delegates to the "International Congress of Associations and Societies of Pharmaceutists," held in Paris on the 21st, 22d, 23d, and 24th of August, 1867, respectfully reports that he attended that Convention, which convened in the hall of the Société de Pharmacie. Delegates from Southern and Northern Germany, Austria, Belgium, Denmark, Egypt, Spain, the United States, France, Holland, Hungary, Italy, Prussia, Russia, Sweden, and Switzerland, were present. France was represented by nearly sixty delegates from the numerous provincial associations and societies.

The meeting was temporarily organized by M. Bussy, of Paris, in the chair, M. Robinet, the Commissioner of the previous Congress, acting as Secretary.

A Committee on Credentials verified the certificates of the delegates, and on considering the manner of voting it was determined that the votes should be by nations and not by societies; giving the countries a number of votes proportioned to the number of Pharmaceutists they represented, which was considered the juster mode, as otherwise France, who had more delegates than all the other countries combined, would have out-voted them. The aggregate votes amounted to forty, of which the United States had four.

The election of Permanent Officers being in order, a ballot was cast, and Dr. Rieckher, of Marbach, in Wurtemburg, was elected by a large majority. Five Vice-Presidents were then elected, in the following order: Messrs. Procter, of the United States; Dittrich, of Austria; Andrès, of Russia; Ferrari, of Spain; and Mosca, of Italy. M. Robinet, of Paris, was elected General Secretary, and Messrs. Tisell, of Sweden; Flückiger, of Switzerland; Schleisner, of Denmark; Walter, of Holland; Mayet and Limouzin, of France, were elected Vice-Secretaries.

The communications received by M. Robinet, directed to the Congress, were then read in abstract.

One of the first subjects considered was the feasibility of a universal

Pharmacopœia, to be used in all civilized countries. Various views were offered, and a large majority were evidently in favor of the adoption of the idea. The influence of climate, and the various needs of countries in consequence, were offered as a reason for not adopting a universal code, but it was not admitted as cogent, as it was believed that the peculiar needs of special cases could be met in an addendum. The Latin was adopted as the only suitable language for such a work; one member advocated having the text in the several principal languages of Europe! When the general features were settled, and the final vote came for or against the adoption of the suggestion of a Universal Pharmacopœia, the votes were all in the affirmative except those from the United States, which were given in the negative because the delegates believed the differences in the Pharmacy of Continental Europe and that of the United States was too marked, as regards the strength of numerous preparations, to permit a fusion of codes, on the basis of either the German or the French, by the Pharmacepœial authorities of the United States.

In regard to weights and measures, the general opinion was in favor of the metrical system. M. Margraff, of Berlin, stated that the Prussian Government had just adopted the metrical weights, and had under consideration the measures. The action of our own Government was stated.

The second and third sessions were chiefly occupied in the discussion of certain questions previously printed and circulated among the members. The first of these was in reference to the practice of Pharmacy, which, for clearness, was presented under three heads, viz., Shall there be unlimited liberty, as in ordinary mercantile business? shall there be free practice, with the guarantee of a diploma and personal responsibility under the common law? or shall there be a wise regulation by law designed to ensure the public interests and to protect the pharmaceutist?

This question involved that of free competition in business, and called forth much discussion, as there were, especially among the French members, many advocates for a more open competition than obtains in many parts of Europe. All the delegates voted against the first view, all except those from the United States against the second view, and all but those of the United States in favor of the third view, which was carried by a large majority of the votes. Had the delegates acted as individuals the result might have been the same, but the minority would have been much larger, from the French delegates who were not permitted to vote.

The second question, "Is it proper to limit the multiplication of pharmaceutical shops?" was referred to a Committee consisting of Messrs. Dittrich, of Prague; Flückiger, of Berne; Peltz, of Riga; Gastinel, of Egypt; Torok, of Hungary; Kretschner, of Breslau; Walter, of Holland; and Faber, of New York, who reported in favor of limiting the number of pharmacies by law, M. Faber alone voting in the negative.

The third question was, "Is it proper to demand the creation of Institutions of a disciplinary character, destined to maintain the correct stand-

ing of the Profession of Pharmacy, by insuring its correct practice, and to represent and protect it in all its exterior relations?" was referred to a Committee, who reported in the affirmative, which view was adopted by the Congress.

As some of the speakers had alluded to Pharmacy in America in a way to give a wrong impression, a short statement was prepared and read, with the view of setting us aright.

On the morning of the second day it was announced that M. Guibourt, who it was expected would be at the meeting, was dead, causing a profound sensation among the members. M. Guibourt was President of the Société de Pharmacie of Paris, and Chairman of the Committee having the arrangement of the Congress. The deceased had attained his seventy-seventh year, and, though quite infirm, had the enjoyment of his faculties. His funeral took place on the 24th of August, at noon, and was attended by many members of the Congress.

The subject of "Pharmaceutical Specialties," or what we called proprietary articles or preparations, which came up naturally in the discussion of the first and third questions, elicited much expression from both the affirmative and negative sides. M. Bondet and Robinet were particularly eloquent in opposing these preparations, whilst Messrs. Vée, Foumoze and others, representing the French view of greater freedom in competition, were equally vehement in their advocation; but they were unable to do more than express their sentiments, as the voting was by countries.

The Congress adjourned on the morning of the fourth day, committing the business of arranging a third International Congress to the same Commission, viz., Messrs. Schroeder, of Russia; Robinet, of France; Beckert, of Austria; Rieckher, of Wurtemberg; and Bley, of Prussia; and leaving the time and place to he fixed by the Commission.

On the evening of the 23d of August the members were invited to a dinner given by the Pharmaceutists of Paris, which was numerously attended and passed off in a satisfactory manner.

On the afternoon of the 24th, at 3 o'clock, the members were invited by the authorities of Paris to meet at the Place du Chatelet, and make a subterranean excursion in the great sewers of Paris. About sixty members attended, descended spiral stairs to the main sewer, which was there about 12 to 15 feet in diameter, having a central canal with flat sidewalks, upon the edges of which the cars were placed. Five cars being filled, the company were propelled by the operators a distance of two miles, probably under the rue Rivoli, to the Place de la Concorde, when the company entered boats and were drawn along the large sewer which passes the Madeline, for perhaps half a mile, when the members ascended to the Boulevard, much gratified with the excursion, and without any annoyance from dampness or bad odors. It was observed that the main water pipes for the city supply are conducted along the upper part of the sewers, so as to be at all times capable of inspection. The local telegraph wires are

also carried along these subterranean avenues in tubes attached to the ceiling.

In conclusion, it may be stated that the Laboratory, Museum and Botanical Garden of the Society of Pharmacy were freely open to the members during the sessions, and that an excellent social feeling prevailed.

Very respectfully submitted.

WILLIAM PROCTER, JR.

Philadelphia, Sept. 30th, 1867.

No reports being received from the delegates to the American Pharmaceutical Association, the report was, on motion, deferred until the next annual meeting of the College.

The subject of increased accommodation for the School of Pharmacy of the College being called up for consideration, a series of resolutions was informally offered, and after discussion it was resolved, that the chair appoint a committee to digest and perfect the resolutions, and present them to the College at its next annual meeting, in March next, or to a special meeting called for the purpose.

To this service the Chair appointed

Chas. Bullock, Chas. Ellis,
T. Morris Perot, Ambrose Smith,
William J. Jenks.

A communication was read from Samuel F. Troth, Chairman of the Sinking Fund Committee, giving a statistical account of the operation of that committee for the past 23 years. In 1832 the indebtedness of the College was $11,500. Through the exertions of the Committee and the liberality of the Loanholders, and carefully husbanding the small resources placed at the disposal of the Committee, the debt of the College has been liquidated. The reading of this report elicited remarks of congratulation over the work accomplished, and appreciation of the untiring faithfulness of the Committee, during nearly a quarter of a century, in accomplishing their object.

On motion, the Committee on Sinking Fund was discharged, having performed the purpose of its appointment.

Prof. Procter offered the following resolution, which was adopted.

Resolved, That this College has heard with great satisfaction the final report of the Treasurer of the Sinking Fund Committee, announcing the entire liquidation of the College debt; and, believing that this result has been in a great measure due to the untiring efforts of the Treasurer of the Committee, Samuel F. Troth, hereby extend to him the thanks of the College for his valuable and long-continued service; and that the Secretary be directed to furnish him with a copy of these resolutions.

William C. Bakes, on behalf of the members of the College, presented to the College a portrait in oil of Prof. Wm. Procter.

The resignation of Thomas P. James was accepted, and he allowed to retain his certificate of membership.

The semi-annual election being in order, the Teller reported the election as *Trustees* of

Dr. W. H. Pile, Edwd. Parrish, A. B. Taylor,
Evan T. Ellis, Wm. C. Bakes, Wm. J. Jenks,
H. N. Rittenhouse, Chas. Shivers.

Committee on Deceased Members.

Edward Parrish, Wm. Procter, Jr., Chas. Bullock.

On motion, then adjourned.

CHARLES BULLOCK, *Secretary.*

Editorial Department.

EUROPE AND THE PARIS EXHIBITION.—The visitor at the International Exhibition at Paris, who pretends to give a report of what is there to be seen, needs to be well provided with time and writing materials; for so extended is the display and so numerous are the details, that many days are required for even a cursory examination, and much more for a comparison of the specimens, even in the classes that specially interest the pharmaceutist, (classes 40, 43 and 44.) The collections of drugs and medical substances in the departments of Brazil, Turkey, Australia, India and Algeria, are quite numerous, and many of them very curious. The French and British governments have taken special pains to gather the productions of their colonies, and the Turkish government, including Egypt, is very well represented in this class. There are also numerous objects of interest to the pharmaceutist in the collections of nearly every country of Europe and their colonies. Of the more important of these collections we obtained the special reports through the kindness of B. L. Simmonds, Esq., of London, the British Commissioner for those classes, who greatly aided us, by personal attentions, in finding the more important groups. We hope, by the aid of these reports, and some notes taken on the spot, to recur to this subject at an early date. European pharmacy is more particularly illustrated in the 44th class, which embraces "chemical and pharmaceutical products," and one might spend days among the numerous collections of France, Germany and England, so rich are they in rare and beautiful products of the Laboratory.

The interest of the pharmaceutist, however, is not confined to the classes mentioned; in chemical, pharmaceutical and philosophical apparatus, metallic ware, glass ware, earthen ware, etc., there are many things that deserve examination. But amid so much that is attractive in all departments, owing to novelty or beauty, or excellence, it should

not be expected that the traveller, albeit a pharmaceutist, (urged on his journey by the ever recurring necessity of seeing much in a short time,) should linger among his specialities, whilst his pathway teems with the best productions of the manufactories, the studios, and the museums of the old world. And so of travel ——— the disciple of Galen, temporarily emancipated from the pestle, wandering amid the olive shades, the orange groves and vineyards of Southern Europe, is not tempted to view them from the standpoint of the Pharmacopœia, when among them he finds scattered the tombs, the monuments and the lands marks of an ancient civilization, about which his earliest recollections of history lead him to inquire —and whilst liquorice and argols and olive oil and castile soap are legitimate objects of inquiry, it should not be deemed strange if they received much less than their share of the time and scrutiny of the traveller. Nevertheless we have some notes of these things and expect to get them into a shape suitable for publication, offering the above as an apology for not having contributed to the journal during our absence in Europe.

The Pharmaceutical Congresses at Paris.—Two Conventions of Pharmaceutists occurred in Paris in the month of August, 1867. The *French National Congress*, representing by 100 delegates 55 Local Pharmaceutical Societies, in a general Congress, the eleventh of its kind; and the *International Congress*, representing the Societies of Europe and the United States. The subjects under discussion at the former were mainly professional, referring to the qualifications of practitioners of Pharmacy, the conditions under which Pharmacies should be opened, the relations of Pharmaciens and Physicians, the annual visitation of shops by a board of inspectors, etc. The Congress embodied its views on these points in a series of 26 articles, which it is proposed to embody in a law through the agency of the Government. Among these articles are the following:—

Art. 1. "No one shall be able to take out a pharmaceutical patent, open a pharmacy, prepare, vend or sell any medicine or remedy, either for human medicine or in the treatment of animals, if he has not been recognized as a pharmacien according to the forms determined by law."

Art. 6. Foreigners will not be permitted to practice pharmacy unless they obtain a license and the French diploma.

Art. 7. A pharmacien cannot hold, directly or indirectly, more than one shop open to the public. He can practice in this shop no other profession but that of Pharmacy.

Art. 10. All association between a physician, surgeon, health officer, or veterinary doctor, having for its object the exercise of Pharmacy, is interdicted; and all collusion or trickery between these classes is equally forbidden.

Art. 11. The simultaneous exercise of Medicine and Pharmacy is interdicted, except in certain specified cases in country practice.

Art. 15 refers to the action of a syndic chamber in visiting shops

annually, assisted by a commissary of police or the mayor of the commune, to insure the good quality of medicines. The members of the syndic chamber to be elected by the pharmaciens of each department of France from among their number.

Certain scientific questions were also discussed, and medals granted for the best papers in reference to the solaneæ and the tannins.

The *International Congress* consisted of delegates from seventeen distinct Nationalities, and about a hundred and thirty members. Our readers will find a report on this subject at page 561. The meeting took place in the Hall of the Society of Pharmacy, which was too small to accommodate the Convention comfortably. Some of the most noted pharmaceutists of Europe were here drawn together, and not the least important part of its results will grow out of the social interminglíng of these well-known members of the profession of Pharmacy.

Meeting of the Association.—Our readers will find a report of the meeting of the American Pharmaceutical Association, made up from notes furnished by Prof. Maisch, the permanent Secretary. Owing to not being present at the meeting, the Editor is unable to fill in many references to the discussions, which have usually appeared in the Journal report, and the phonographic report did not come to hand in time to profit by it. The occasion appears to have been one of unusual interest, and the papers read numerous. We hope to be able to present our readers some of these in future issues. The Exhibition which accompanied the meeting was the largest ever offered to the Association, and we have transferred the report on its items, printed in the *Druggists' Circular* of October, to the present number. See page 568. The movement in reference to improving the financial condition of the Association has our hearty approval, especially that relating to the abolition of life membership.

Excursion of the Association.

On Friday afternoon, September 13th, at three o'clock, the members with their wives and daughters to the number of three hundred, met on board the steamer Thomas Collyer, and proceeded down the bay to Sandy Hook, and returning passed around Governor's Island and up the Hudson to Yonkers and back. The weather proved delightful, the music excellent, and a handsome collation served on board, proved to be not only "good of its kind" but of the right kind, giving eminent satisfaction. Just before landing, the floral decorations of the tables were distributed among the ladies. In addition to the other objects of interest, two natural phenomena, a Lunar Eclipse and an Aurora of great beauty, were visible to the excursionists, (as they were to the writer who enjoyed them highly from the deck of the Minnesota as she was steaming across the Atlantic). The boat arrived at the pier at 9 P. M. without accident.

EXHIBITION AT THE NEW YORK MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.—Not having had the pleasure of seeing the Exhibition, nor the report of the Committee relative to it, we avail ourselves of the very full report of the *Druggists' Circular* for October.

American Pharmaceutical Association. Exhibition of Pharmaceutical Objects.

Early in July, the Local Secretary, Mr. P. W. Bedford, issued a circular, copies of which were sent to the address of many members of the Association, as also to those engaged in manufacturing articles used by pharmaceutists, desiring contributions of objects of interest for exhibition.* Quite a large number of persons responded, the result of which was an excellent display of useful and interesting material. Among the exhibitors of *chemicals* were J. F. Luhme & Co., L. Martin & Co., C. Pfizer & Co., Rosengarten & Sons, and Carter & Scattergood.

J. F. Luhme & Co., exhibited a fine collection of the rarer chemicals of foreign manufacture.

There might be mentioned, tungstic, stearic, molybdic, and antimonic acids, oxides of cobalt, manganese, uranium, chrome, nickel, and copper, oxalates of ammonia and cerium, succinate of ammonia, and about twenty other specimens of chemicals. A large sheet of aluminium attracted much attention.

L. Martin & Co., exhibited thirty-six specimens of their manufacture of chemicals. Among the more noticeable (although all were especially fine), were ammonio-citrate of bismuth, citrate of iron and quinine, iron by hydrogen, pyrophosphate of iron, the salts of zinc, acetate of potassa, acetic, carbolic, gallic, muriatic, nitric, sulphuric, tannic and valerianic acids, and sulphate of morphia.

This house makes a speciality of furnishing pure chemicals, and it was stated that the specimens on exhibition were taken from ordinary stock, without any special preparation or selection. The oxide of zinc, and iron by hydrogen, are superior to any we have ever before seen of domestic manufacture.

C. Pfizer & Co., exhibited fifty specimens of their manufacture. Special mention is made of the elegant crystals of permanganate of potassa, nitrate of silver, piperin, iodide and bromide of potassium and of cadmium. Of the other articles, iodine, iodides of arsenic, sulphur and ammonia, the scaled salts of iron, valerianate of zinc, chlorate of soda, sub-nitrate and sub-carbonate of bismuth, and caustic potassa, were fine specimens.

Rosengarten & Sons exhibited forty specimens in a case. Sulphates of quinia and morphia, bromide of potassium and nitrate of silver, in one-gallon jars, made a fine display. Of the other chemicals, the more prominent were the fused and crystallized nitrate of ammonia, iodides and bromides of ammonium, sodium, and cadmium, the scaled salts of iron, acetate and muriate of morphia, piperin, tannic acid, chromic acid, iodides of lead and mercury, and sulphate of cinchonia.

Carter and Scattergood, of Philadelphia, were represented by two handsome specimens of red and yellow prussiate of potassa, in solid mass of crystals, each weighing about forty pounds. They were exhibited by P. W. Bedford, to whom they belong.

E. S. Wayne, of Cincinnati, exhibited specimens of crude tartar, cream of tartar, Rochelle salts, and tartaric acid made from wines of the

*During the sessions of the Association.

Ohio grape; a specimen of opium produced in Tennessee, containing over ten per cent. of morphia.

Chemical and pharmaceutical apparatus were exhibited by J. F. Luhme & Co., Mandelbaum & Mandel, J. Arnaboldi, and Dr. W. H. Pile.

Luhme & Co., exhibited burette stands in brass and wood, burettes, graduated pipettes, hydrometers, thermometers, Nicholson's areometer in glass, apparatus for decomposing water and collecting the products, graduated mixing bottles, specific gravity balance, apparatus for fractional distillation, chemical balances, Luhme's gas stove, Bunsen's gas burners and O'Donnell's retort stand.

Mandelbaum & Mandel exhibited a variety of glass-ware for chemical and pharmaceutical use, retort stand, separating bottle, alcoholometer in case, crucibles, evaporating dishes, litre mixing-bottle, and pill machine.

J. Arnaboldi exhibited various patters of thermometers, hydrometers, hygrometers, and urinometers.

Dr. W. H. Pile, of Philadelphia, exhibited an alcoholometer in case; various patterns of hydrometers, adapted for ammonia, sugar, sea-water, acids, etc.; urinometer in case, graduated pipettes, tubes and measures, stoppered and plain specific gravity bottles.

The Washington Pharmaceutical Association presented several specimens of preparations made by formulæ adopted by the pharmaceutists and physicians of the District of Columbia.

J. W. Shedden exhibited prepared flour of bran, adapted for use of dyspeptics, and a pyramid containing a large number of specimens of minerals.

W. N. Walton & Co., New York, exhibited a variety of druggists' glassware of their own make, and ornamented with their patent recess label.

Geo. W. Stoeckel, Pittsburgh, Pa., exhibited graduated bottles, from one to sixteen ounces capacity, made by his patent. The smaller bottles are graduated by drams, and the larger by half-ounces. They are a great convenience to the patient, as well as to the pharmaceutist.

B. O. & G. C. Wilson, Boston, Mass., exhibited fifteen specimens of pressed herbs, in pound packages, as also a variety of one and two ounce papers. The herbs sold by this house are superior to any we have seen, and deserve high commendation. They are entirely freed from all the large stems, and though pressed firmly, the leaves retain their form very perfectly.

Becker & Sons, of Hudson City, N. J., exhibited four patterns of their excellent balances. The largest balance was designed for analytical purposes, and was one of the most sensitive balances we have seen. It was purchased by Dr. Chandler for the analytical laboratory of the School of Mines. Three of these balances were adapted for prescription use, and were sensitive to the fiftieth of a grain, while the gold scale with ten ounces in each pan would turn as quickly. We would especially call the attention of those requiring very delicate analytical or dispensing balances to those of Becker & Sons' make, believing them to be equal in accuracy to any made in Europe.

Henry Troemner, Philadelphia, made a fine display of balances. Four patterns of "Hoffman's" patent balance were shown, as also some handsome gold and silver plated prescription balances, twine boxes, twine reels, and a very pretty pattern of cork press in brass. The "Hoffman" balance has the working parts within a box below the pans, similar in general appearance to the Beranger balance, but has a single beam, and consequently less bearings. One balance of this kind was finished in elegant style, the frame of the box being solid brass, heavily plated with

gold, while the sides and top were of plate-glass, showing the working parts of the balance, which were of polished brass and steel. The prescription balances were of neat design, plated and very delicate. The two firms just alluded to, furnish the United States Government with nearly all the balances used in the various mints, assay offices, and other departments.

V. W. Brinckerhoff, New York, exhibited five patterns of counter balances of various kinds. All were of the kind with the pans above the working parts, which are encased in marble, bronze, or open work. They were all of good workmanship, and very sensitive. Of prescription balances, four were shown of different grades, all good of their kind.

A case of large amputating instruments, a pocket-case of smaller size, a pocket-case of post-mortem instruments, a set of forceps, and a pair of saddle bags, were also contributed by Mr. Brinckerhoff, who manufactures surgical instruments and surgical appliances of all kinds.

Buckalew & Waterman, Philadelphia, exhibited a balance called the "arc scale," which has a stationary weight working on a pivot, and indicating both troy and avoirdupois weights.

W. H. Schieffelin & Co. exhibited a handsome prescription balance, in case, as also a Beranger balance, small size, for the same purpose. The house also exhibited some specimens of drugs: tonka beans in pod, sumbul root, squill root, kameela, kousso, kino, St. John's bread, xanthorrhœa, quillai bark, ant's eggs, Vienna glycerine, cod-liver oil, oil of peppermint (from Hale & Parshall) coumarin, and sulphate of soda.

Wm. Neergaard exhibited an interesting series of cinchona barks, eighteen specimens in all, each having its origin and constituents noted on the label. They were presented by Professor Winckler.

Howell & Onderdonk exhibited specimens of pharmaceutical preparations, consisting of elixir calisaya, iron and bismuth, elixir valerianate of bismuth, liquor bismuthi, syr. iodide of starch, and various preparations of iron and the hypophosphites.

Codman & Shurtleff, Boston, exhibited a variety of surgical and medical instruments, comprising various styles of apparatus for the atomization of liquids for inhalation, disinfecting sick-rooms, and perfuming. Freezing apparatus, for producing local anæthesia, with various forms of tubes for physicians' and dentists' use; nasal douche; a new spring vaccinator; champagne syphon, and various instruments for inhalation of ether.

J. M. Migeod & Son, Philadelphia, exhibited a neat style of medicine chest, and a pair of physicians' saddle-bags of their own manufacture.

Wirz, Philadelphia, exhibited a pill machine, having a chilled iron frame around the machine.

E. Parrish, Philadelphia, exhibited pharmaceutical stills in copper and tin, gas furnace, suppository moulds, camphor ice-tray, and tin oil cans with glass labels; also fourteen varieties of effervescent salts of P. Squire's make.

Mellor & Rittenhouse, Philadelphia, exhibited citrate of magnesia, Seidlitz, Kissengen and Vichy salts in granules. Also, some narcotic and other extracts manufactured by William Ransom Kitchin, England.

Charles Ellis & Co., Philadelphia, exhibited some granular salts of the same class as just mentioned.

Bullock & Crenshaw, Philadelphia, exhibited ninety-four varieties of sugar-coated pills and granules. This house ranks deservedly high in furnishing a reliable article, carefully made and handsomely finished. They also exhibited a brass mould which opens on a hinge for suppositories, a very convenient article.

Wm. R. Warner & Co., Philadelphia, exhibited a great variety of sugar-

coated pills, which presented a handsome appearance. Some samples of Gordon's glycerine of fine quality were also exhibited by this firm.

Hance, Griffith & Co., Philadelphia, exhibited a handsome medicine chest, filled with samples of fluid extracts and sugar-coated pills. The chest and contents were donated to the New York College of Pharmacy by the firm.

W. T. Fry & Co., New York, exhibited a new style of breast pump and cupping cups, exceedingly simple in their construction and application, and superior to anything for the purpose now before the public.

B. H. Sleeper & Co., Philadelphia, exhibited a set of graduates, made by Hodgson's patent. They are moulded, and the divisions on the graduate are made accurate by the careful adjustment of a conical plunger. They are infinitely superior in accuracy to the great majority of the graduates sold.

The New England Glass Co. exhibited some handsome quart glass stoppered bottles.

The Pennsylvania Salt Company, Pittsburgh, exhibited specimens of cryolite and its preparations.

R. Dudgeon, New York, exhibited a hydraulic press, occupying not more than four square feet of floor room, and capable of a pressure of *ten tons*.

Mardon Wilson, Jr., Philadelphia, exhibited several sizes of the India-rubber water and ice bags made under Chapman's patent, intended for local application in disease.

O. B. Gray, New York, exhibited a great variety of India rubber goods, such as are usually sold by the pharmaceutist, including syringes of all styles, flesh rubbers, speculums, pessaries, stethoscopes, water bags, and chair cushions.

G. E. Ranous, New York, exhibited Wheelock's Reserve Flow Syringe, two patterns.

The Mattson Syringe Co., New York, exhibited the new pattern of "Mattson Syringe," which possesses some advantages over the styles prevalent of late. They also make a new instrument called "The Vaginal Irrigator," which can be attached to any elastic tube syringe.

Borden & Currie, Elgin, Ill., and New York, exhibited their extract of beef. This article is the *best* of the kind made, being the true juice of the meat evaporated in vacuo to a solid consistence, and represents *twenty* times its weight of meat. This article is made in Illinois from fatted cattle, and not, as some of the so-called extracts, from scrap-ends of meat unfit for sale.

Zimmerman & Co., New York, exhibited specimens of Catawba brandy and deodorized alcohol.

E. B. Phillips & Co., Newfoundland, a sample of cod-liver oil of fine quality.

W. C. Bakes, Philadelphia, on behalf of the Alumni Association of the Philadelphia College of Pharmacy, exhibited an oil-painted photograph of William Procter, Jr., until recently the Professor of Pharmacy in that College.

P. W. Bedford, New York, exhibited a photograph album containing seventy-five photographs of members of the Association. Also, a frame with fourteen photographs of prominent members of the British Pharmaceutical Conference.

An engraving of the interior of J. Bell's laboratory in London in 1840.

J. D. Williams, New York, exhibited samples of tin boxes, for druggists' purposes.

The Swift Manufacturing Company, New York, exhibited a great variety of light wooden boxes for Druggists' and other business purposes. They are well adapted for keeping herbs, drugs, etc., as also for mail or express packages.

The handsome glass cases used for articles on exhibition, were furnished by F. A. Howell, No. 5 North William st., New York.

John Matthews exhibited a magnificent large size soda-water apparatus, the case of which was constructed of Tennessee marble. The interior is arranged with glass syrup jar-coolers, and pipes for mineral waters, with all the latest improvements. Also one of smaller size of French marble. There was also a castor stand fitted with glass jars for syrups, patent glass fountains, one exhibited in section, and Matthews' patent coupling and stop-cock.

The elegance of these articles was a subject of much comment.

E. Bigelow, Springfield, Mass., exhibited one of his "Polar" soda apparatus. This apparatus is a case of marble, containing the coolers, the syrup jars being of stoneware, and the draft tubes lined with porcelain, the mineral water draft tubes lined with glass, and Wm. Gee's patent soda draft-tube. This apparatus is deservedly popular.

J. W. Tufts, Boston, Mass., exhibits an "Arctic" soda apparatus of his construction. It is well known to the trade.

Wm. Gee, New York, exhibited his patent soda-water generator and fountain. This apparatus, which is described in his advertisement on another page of this journal, is the best machine for the purpose. It is well and securely made, free from action of deleterious metals, occupies but little room, easily managed, and is more economical of gas than any other apparatus. Its peculiarity is that the fountain can at any time be filled by means of the pump without disconnecting any portion of the apparatus, and that all the gas is utilized.

Schultz & Warker, New York, exhibited an apparatus for giving injections of carbonic acid water.

Dr G. Wieber, Williamsburgh, exhibited a variety of mineral waters, in syphon bottles.

High Rock Spring Co., Saratoga, N. Y., exhibited the water of that celebrated spring in bottles and on draught. The analysis of Prof. C. P. Chandler proves the water of this spring to be one of the best of the Saratoga waters.

A. R. Lawrence & Co., Saratoga Springs, exhibited the water of the "Excelsior" Spring in bottles, on draught charged with carbonic acid, as also in its natural condition. The water of this spring is filled in bottles and barrels by hydrostatic pressure, thus retaining all the gas which exists in the water.

The firms of Scribner, Welford & Co., George Routledge & Co., B. Westermann & Co., and E. Fougera, all of New York, exhibited copies of scientific works, interesting to the pharmaceutist.

Prof. F. J. Bumstead, M. D., exhibited fifty colored plates, illustrating some portions of Medical Botany and Materia Medica. They were greatly admired.

There were many other articles which might have been mentioned, but our space forbids. The exhibitors deserve the thanks of the profession for the articles sent for display, and the Local Secretary is entitled to great credit for his "labor of love" in carrying out the project, which was accomplished so successfully, and with great satisfaction to all present.

Chemistry. By Brande & Taylor. Second American edition, thoroughly revised. Philadelphia: Henry C. Lea. 1867, pp. 764, octavo.

The work of Brande & Taylor has been so favorably received since its introduction to the American public, in 1864, that a new edition was required, and it is well worth mentioning that this second American edition has been very carefully revised, and enlarged by nearly seventy pages, by Dr. Taylor, the surviving author, Prof. Brande having deceased since the first edition was issued. The author appears to have extended his care to all portions of the work, organic and inorganic. Among the former, additions will be found at chloroform, nitro-glycerin, anilin colors, valerianates of soda and of zinc, petroleum, &c. Chemical attraction, saline solubilities, spectrum analysis, and other subjects, have also been enlarged, so that the claims of the book presented to the student are strong and decided, as being up to the present time, and meriting his confidence. The book is well printed, and appears to have been duly cared for in passing the press.

The American Naturalist, a popular, illustrated Magazine of Natural History. Essex Institute, Salem, Mass. Edited by Alphæus S. Packard, Jr., in connection with Edward J. Morse, Alphæus Hyatt and Frederick W. Putnam.

Three numbers of this excellent monthly have reached us—those for April, May and September—and our omission to notice their reception has been accidental rather than intentional. The first number, containing the prospectus, we have not seen; but, by an advertisement appended to the September number, we are informed that the publishers are much encouraged by the patronage already extended to the work. From a glance over the pages we are satisfied that it will prove a valuable means of creating a taste for natural history, by presenting the subject in a form attractive and easily understood. Besides, the illustrations and typography are so excellent that the work is an ornament to the table. Our farmers should encourage it, if for no other reason than to get information of a reliable character about the insects and other pests that are attacking their crops, growing and gathered. It is not often that so much true science is served in a form so agreeable and attractive, and the price is only three dollars a year. The editors have our best wishes for continued and increased success.

The Laboratory, a weekly record of Scientific research, Numbers 18 to 26. London, Aug. 3 to Sept. 28. Published by James Firth, 22 Cannon St., London. Edited by John C. Brough.

This new weekly journal commenced its career with much promise. Its articles have been well written, its contributions excellent, and its getting up admirable, being one of the best printed journals received. In view of all this it is with regret that we learn from the Editor that the publication

is suspended for the present, owing to the meagre patronage extended to it. Mr. B. trusts that it will reappear at a future date, but at present bids his friends adieu.

The Chemical News and Journal of Physical Science, Vol. 1, No. 1. 1867. Edited by Wm. Crookes, F. R. S. Published by W. A. Townsend and Adams, New York, July, 1867.

The question of the legal right of republication, in the absence of an international copyright law, may seem clear to those who oppose that law, but the circumstances under which the above publication is issued certainly calls for a word at our hands, and all interested in scientific literature. The New York issue professes to be a *reprint*, and yet the arrangement of the matter is altered, the paging is altered, and the numbering is changed. Journals, in quoting from the reprint, forget this, and at once mislead their readers. For instance, in the number of the *Franklin Institute Journal* just received is an article on Cantharidin, credited to *Chem. News*, Vol. 1, No. 2, for August, whereas it really should have been credited to Vol. 15, No. 391, for May 31. To show the annoyance that will be caused by this mixing up and derangement, we were at first unable to find the article on Cantharidin in the original! If, therefore, the reprint must take place, let it be word for word, page for page, and date for date. It would be better that the American publishers should sell the original, as agents for the London publishers, at a fair profit, but in case that cannot be done let them issue a *fac simile*, properly dated.

Synopsis of the Course of Lectures on Materia Medica and Pharmacy delivered in the University of Pennsylvania, with five Lectures on the Modus Operandi of Medicines. By Joseph Carson, M. D. Fourth edition, revised. Philad.: Henry C. Lea. 1867, pp. 272.

This new edition of Dr. Carson's syllabus has been rendered more useful to the student by the introduction of five lectures on the operation of medicines, fully written out, so that the student may have them before him for careful study, and thus aid him in grasping this important and difficult subject.

The Physician's Visiting List for 1868. Philad.: Lindsay & Blakiston.

This annual visitor is again on our table, and reminds us to tell our medical friends that their wants have been provided for by the publishers in a new edition of this useful pocket companion.

Is it I? a book for every man; a companion to Why Not? a book for every woman. By Prof. Horatio R. Storer, M. D., of Boston, Vice-President of the American Medical Association. Boston: Lee & Shepard. 1867, pp. 154, 18mo.

The same reasons that caused the approval of "Why Not?" in our July

issue, as a testimony against abortion in all its shapes, and especially against that practised in married life, leads us to entertain a favorable opinion of the present volume, as an appeal for justice to the understandings of men, in a case where their own passions are at the bar. It is a plea for reasonable continence in married life, based on true respect for women, as the foundation of domestic happiness. Let every man read it, and ask, Is it I?

British Pharmacopœia. Published under the direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to the Medical Act of 1857–67. London.

We are indebted to Prof. Redwood for a copy of the new edition of the British Pharmacopœia, prepared by himself and Mr. Warrington, of Apothecaries' Hall, and hope to be able to notice it in a future number of this Journal.

Letters Received from I. L. Putegat, of Brownsville, Texas, George C. Schæffer, Washington, D. C., and W. D. Atkinson, Jr., of Boston, will receive attention.

OBITUARY.

Guibourt.—Nicholas-John-Baptist Gaston Guibourt, was born in Paris in 1790, and died on the 22d of August last, in the 77th year of his age. He was educated as a Pharmacien in the Pharmacy of Boudet, where he commenced his career in 1806. He afterwards served as an interne of the Hospitals, and graduated with honor at the École de Pharmacie in 1816. He was subsequently appointed director of the magazine of the Central Pharmacy of the Hospitals of Paris. It was when in occupancy of this position, that he conceived the idea of writing his "*Histoire des Drogues Simples,*" and he afterwards, in connection with M. Henry, published his "Pharmacopée Raisonée, a treatise on Practical and Theoretical Pharmacy. In 1824 he became a member of the Academy of Medicine, and in 1832 was elected to succeed Pelletier in the chair of Natural History of Drugs in the Ecole de Pharmacie. In 1845 he gave up the pharmaceutical business which he had pursued for 27 years, and devoted himself to the interest of the School of Pharmacy, greatly advanced the reputation of the branch of instruction which he taught, and extended the collections of the museum, which he labelled with great care and exactness to give them authenticity. A marked trait of M. Guibourt was his earnest pursuit of the truth in science, and it was this that gave character to his works. His merit was enhanced by modesty and disinterestedness, his ambition being to pursue at his leisure the problems of science, and the

pages of the Journal de Pharmacie teem with the results of his labors, from 1816 to the present year.

M. Guibourt was twice an occupant of the presidential chair of the Société de Pharmacie, and held it at the time of his death. In 1865 he was a delegate to the first International Pharmaceutical Congress, at Brunswick, and was one of the commissioners to prepare for the Congress at Paris. In 1866 he resigned his professorship in obedience to bodily weakness, but continued his scientific labors to the last, having presided at the Society of Pharmacy two weeks prior to his decease, and he was named provisional president by the French Pharmaceutical Congress which met on the 17th of August, four days before his death. When the International Congress met on the 21st of August, some supposed M. Guibourt would be its president, but he did not appear at the first session, and on the morning of the second his decease was announced. During a short sojourn in Paris, in May last, the writer called at 6 rue Censier, and was kindly received by M. Guibourt, who at the time was engaged in his garden training vines. The impression gained at this interview was a very pleasant one, and it was with no ordinary regret that the announcement of his death was received. The funeral took place at noon on the 24th of August, proceeding to the church, and thence to the grave at the cemetery of Mont Martre. The faculties of the Academie de Médicine and of the École de Pharmacie were present in their professional garbs, and MM. Planchon, Mialhe, Buignet and Mayet delivered funeral discourses.

W. P., Jr.

Faraday.—In our last issue the death of this great man was announced through the agency of the Atlantic Cable. The journals now afford abundant materials for a more extended notice. Faraday as a philosopher belongs to all the world; but as a man and citizen he was a true Briton in his cast of intellect and manner of life. He was too truly great to be spoiled, else the temptations of place and wealth would have ruined him by turning him aside from that high path of scientific research to which he perseveringly held.

"Michael Faraday was born in 1791, at Newington, in Surrey. His father was a blacksmith, and we deeply regret that we have no authentic record of his youth until the time he was apprenticed to a book binder. It is certain, however, that at the time of his apprenticeship he was enthusiastically fond of science, and he even made an electrical machine and other scientific apparatus. The almost incredible skill which he had with his hands (a skill which is born with a man and which in its perfection cannot be taught), induces us to believe that he could find much less difficulty than most men in acquiring the power of using the *materia technica* of chemistry and physics; and the readiness, with which Sir Humphrey Davy received him as an assistant into his laboratory is a pretty

strong evidence that at that time he knew enough of chemistry to make himself exceedingly useful, (Chem. News, Aug. 30). How it happened that Faraday entered Davy's service is better told in his letter to Dr. Paris, and the reply which we obtain from the "Laboratory" for Aug. 31.

To J. A. Paris, M. D.

Royal Institution, Dec. 23, 1867.

My Dear Sir,—You asked me to give you an account of my first introduction to Sir Humphrey Davy, which I am very happy to do, as I think the circumstances will bear testimony to his goodness of heart.

When I was a bookseller's apprentice I was very fond of experiments and very averse to trade. It happened that a gentleman, a Member of the Royal Institution, took me to hear some of Sir H. Davy's last lectures in Albemarle Street. I took notes, and afterwards wrote them out more fairly in a quarto volume. My desire to escape from trade, which I thought vicious and selfish and to enter into the service of science, which I imagined made its pursuers amiable and liberal, induced me at last to take the bold and simple step of writing to Sir H. Davy, expressing my wishes, and a hope that if an opportunity came in the way he would forward my views. At the same time I sent the notes I had taken at his lecture.

The answer, which makes all the point of my communication, I send you in the original, requesting you to take great care of it and let me have it back, for you may imagine how much I value it.

You will observe that this took place at the end of the year 1812, and early in 1813 he requested to see me, and told me of the situation of assistant in the laboratory of the Royal Institution, then just vacant.

At the same time that he thus gratified my desires at a scientific employment, he still advised me not to give up the prospects I had before me, telling me that science was a harsh mistress, and in a pecuniary point of view but poorly rewarding those who devoted themselves to her service. He smiled at my notion of the superior moral feelings of philosophic men, and said he would leave the experience of a few years to set me right on that matter.

Finally, through his good efforts, I went to the Royal Institution early in March of 1813, as assistant in the laboratory; and in October of the same year went with him abroad as his assistant in experiments and in writing. I returned with him in April, 1813, resumed my station in the Royal Institution, and have, as you know, ever since remained there.

I am, dear sir, very truly yours,

M. Faraday.

To M. Faraday,—

Sir:—I am far from displeased at the proof you have given me of your confidence, and which displays great zeal, power of memory and attention. I am obliged to go out of town, and shall not be settled in town till the end of January. I will then see you at any time you wish.

It would gratify me to be of any service to you. I wish it may be in my power. I am, sir, your obedient humble servant,

H. Davy.

With the Royal Institution laboratory as an arena, Faraday's intellect quietly, but certainly developed in the direction he most loved, gathering force by discipline and preparing him for those great discoveries that afterwards connected his name indissolubly with chemical philosophy. He discovered Benzole, determined the composition of Naphthalin and discovered Chloride of Carbon in 1820. In 1821 he made his brilliant discovery of the power of rotation given by a current of electricity to a wire

placed around a magnetic pole, one of the greatest steps made in electrical progress. In 1821 he proved that gases and vapors were synonymous terms by condensing muriatic acid to a liquid, in 1824 he was elected to the Royal Society, in 1827 published his "Chemical Manipulation," in 1829 he was appointed lecturer on Chemistry at Woolwich, in 1833 Fullerian Prof. of Chemistry in the Royal Institution, and in 1839, 1844 and 1845, he published successively the three volumes of "Experimental researches on Electricity" that embrace his great electrical discoveries. In 1846 he received the Rumford Medal of the Royal Society for discoveries in light, and in 1847 he announced the magnetic character of oxygen and the relation of gases generally to magnetism.

Faraday's reputation won for him scientific titles from various societies too numerous to mention. Mr. Crookes, speaking of him as a lecturer, says: "His delivery was by no means rapid, and short-hand writers easily followed him. His language was well chosen, and when surrounded by his apparatus he seemed almost inspired. The most simple experiment in his hands told its tale so well, and by the manner in which it was done assumed such marvellous freshness, that we forget that we have performed it hundreds of times ourselves, and gazed upon it as eagerly as the veriest tyro in the theatre." Speaking of his enthusiasm, "it is as it were contagious, and in his case at least he always secured an attentive, nay, a wrapt audience. To see him perform an experiment was in itself a most instructive study; a failure was with him almost a thing unknown. His readiness of resource was wonderful, and if in the course of an experiment an unforseen phase developed itself, if instructive, it was commented on."

Faraday's manners were characterized by an extreme gentleness and tenderness for the feelings of others. No one could write to him for advice or assistance without receiving it, and his advice was sure to be wise and good. He was entirely free from scientific jealousy and delighted to do justice to other discoverers. His reply when asked the secret of his success was, "the secret is comprized in three words—work, finish, publish."

In 1824 Faraday married Miss Barnard, the daughter of a silversmith of London, but like Davy, Berzelius and Wollaston, left no children to inherit his glorious name.

In 1858 the Queen of England assigned him a residence in Hampton Court, which he continued to occupy till his death, which occurred on Sunday the 25th of August, 1867. He was buried on the 30th, being first taken to the Royal Institution and then to Highgate Cemetery.

INDEX

TO VOL. XXXIX. (VOL. XV., THIRD SERIES) OF THE AMERICAN JOURNAL OF PHARMACY.

Acetate of ammonia, solution of 45
Acid, phosphoric. dilutum 138
Action of alkalies on the ferro and ferri-cyanides of iron 176
Action of water on carbo-hydrates at a high temperature 334
Adolphus, Joseph, M.D., on glycerin 146
" " " on the several modes of administering cod-liver oil 273
Adulteration of oil of lemon 387
Alcoholized iron 11
Alkaloids, their behaviour with reagents 27
Alkaloids, volatile 27
Alkaloids, sublimation of 432, 538
Allaire, Chas. B., on liquor magnesiæ citratis 196
Allen and Hanbury's letter on extract of meat 149
Alum crystallizations 14
Alteration of the freezing point in thermometers 420
Amalgam of mercury and aluminium 184
Amblyopia produced by osmic acid 62
American opium 50
American Pharmaceutical Association, notice of meeting of 375, 469
American Pharmaceutical Association, minutes of 481
Ammonio ferric alum 139
Ammonium, preparation of iodide of 21
Anæsthesia, inquiry into the origin of modern 382
Anderson, Thos., M. D., on the presence of phosphoric and butyric acids in crude pyroligneous acid 82
Application of disinfectants in arresting cattle plague 225
Aromatic sulphuric acid 201
Archibald, Henry C., on the mode of manufacturing sugar-coated pills and granules 199
Arseniuretted hydrogen, distinguished from antimoniuretted hydrogen ... 125.
Art of manufacturing soap and candles 383
Art of perfumery, notice of Piesse's 384
Artificial milk 463
Assafœtida 351

Babcock, James F., on the preparation of iodide of ammonium..... 21
Bakes, Wm. C., pharmaceutical items..... 5, 120
Balsam of Peru, test for..... 7
Bechamp, M. A., on the part played by chalk in butyric and lactic fermentation, and the living organisms it contains..... 56
Benzoinated lard..... 63
Benzine as a substitute for ether and alcohol in the preparation of oleoresins..... 26
Bicarbonate of ammonia..... 87
Bi-bromide of mercury..... 107
Biroth, Henry, on Spanish saffron..... 307
Bleaching gum..... 219
Blondlot, M., on crystallization of red phosphorus..... 83
Boisliniere, S. Ch., M.D., on sirop de pepsin and crême de bismuthe..... 184
Bon de rabais..... 371
Boundou, the proof-poison of the Gabonese..... 124
Borax, manufacture of..... 339
Borax lake in Napa Valley, California..... 255
Bringhurst, Ferris, on medicated cocoa butter..... 348
British Pharmaceutical Conference, 1867, meeting of the..... 505
Bromine poisoning..... 333
Buck, John T., on solution of citrate of magnesia..... 113
Bullock, Chas., note on syrup of the phosphates of iron, quinia and strychnia..... 179
Butyric fermentations influenced by chalk..... 54
Butyric acid in crude pyroligneous acid..... 82
Buchu, fluid extract of..... 129
Burgundy pitch..... 544

Caffeotannic acid..... 319
Caoutchouc, porosity of..... 86
Calotropis gigantea..... 62
Calx saccharatum,—syrupus calcis..... 335
Camphor ice..... 5
Camphor-ice tray..... 6
Capsicum in delirium tremens..... 183
Caramel brown..... 447
Caramel colors..... 441
Carelessness in the collection of drugs..... 304
Castile soap..... 396
Castor oil, its culture in Italy..... 57
Catalogue of the Class of the Philadelphia College of Pharmacy, 1866–7, 94
Cement to fasten iron in stone..... 87
Chalk, living organisms in..... 54
Chloroform, specific gravity of medicinal..... 72
Chloroform water..... 417
Cholera and its prevention..... 436

Church, A. H., on the composition of wheat grains 168
Citrate of magnesia, granular effervescent 65
Citrate of magnesia, solution of 1, 112
Close, Geo. C., on emp. picis c. cantharide 20
Coating of pills 467
Cocoa butter, medicated 348
Cod-liver oil, modes of administering 273
Colocynth, alcoholic extract of 15
Colchicia 97
Columbin in dyspepsia 417
Composition of wheat grain 168
Compound fluid extract of red cinchona 518
Compound fluid extract of bitter orange peel 519
Confection of cinchona and sulphur 417
Conia 29
Coniferin 261
Conium, preparations of 358
Consolidated coal dust 443
Consanguineous marriages 474
Constituents of the bark of the apple tree 415
Contribution to the statistics of drug powdering 114
Copland's compound confection of cinchona 417
Covell, Thos. J., of Brooklyn, N. Y., statistics of drug powdering 114
Creecy, Wm., on alum crystallizations over fresh flowers 14
Crookes, Wm., F.R.S., on the crystallization of glycerin 163
" " on the application of disinfectants to arrest cattle plague 225
Crême de bismuth 184
Crocus sativus grown in Pennsylvania 38
Cryptopia, a new alkaloid in opium 421
Crystallization of red phosphorus 83
Crystallization of glycerin 162
Creasote 416
Culture of saffron in Pennsylvania 38
Cultivation of castor oil in Italy 57
Cultivation of jalap 352

Deodorized tincture of opium 194
Deodorizing India rubber 236
Deportment of medicinal alkaloids with reagents 27
Diabetes 316
Diehl, Jr., C. Lewis, Remarks on some chemical processes 137
" " pharmaceutical notes 385
Diet of paupers 464
Discourse on titles 239
Dilute hydrocyanic acid 141
Doliber, Thos., on benzoinated lard 63
" " on valerian 70

Donovan's solution modified..... 182
Donations to the College of Pharmacy..... 377
Dragendorf, M., on a method of distinguishing arseniuretted hydrogen from antimoniuretted hydrogen..... 125
Drilling glass..... 369
Duffield, Dr. S. P., influence of hypodermic injection on toxicology..... 39
" " on a case of bromine poisoning..... 333
Duplicating numbers..... 90
Durand, E., note on osha and yerba mansa..... 205
Durant, J. J., on mudar, a substitute for ipecac in dysentery..... 62
Dusseldorf mustard..... 319

Eau de Pagliari..... 220
Eberle, Chas. L., on benzoinated ointments and cerates..... 349
Ebert, Albert E., pharmaceutical notes..... 107
" " preparation of deodorized tincture of opium..... 193
" " notes on the British Conference of 1867..... 505
Effect of temperature on organic matter in water..... 126
Electuary of sulphur for habitual constipation..... 418
Elixir of bismuth..... 120
Emplastrum picis cum cantharide..... 20
Employment of narcein..... 249
Emulsion of tar..... 181
English medicinal rhubarb..... 551
English henbane..... 557
Epsom salt in solution of citrate of magnesia..... 397
Essential oil of almonds..... 135
Ether versus chloroform..... 221
Eulenberg, Dr., on the employment of narcein..... 249
Examination of diabetic urine..... 253
Exhibition of specimens at the meeting of the American Pharmaceutical Association, New York..... 568
Extract of meat..... 143
Extraction of fixed oils..... 319
Extractum colocynthidis alcoholicum, U. S. P..... 15
Extractum cinchonæ..... 408
Extractum cinchonæ compositum..... 514
Extractum cinchonæ fluidum..... 515
Extractum cinchonæ fluidum compositum..... 517
Extractum calisaya fluidum..... 523
Extractum cinchonæ flavæ fluidum..... 524
Extractum aromaticus fluidum..... 528

Fero, Adolph, on the kinds of rhubarb in Russian commerce..... 212
Ferrated elixir of gentian..... 306
Filhol, E., on the preparation of medicated tinctures..... 251
Fir wool, manufacture and preparations of..... 188
Fluid extract of buchu..... 129

Fluid extract of cinchona..... 408
Fluid extract of calisaya..... 523
Fluid extract of aromatics..... 528
Fougera, E., on iodinized syrup and elixir of horse-radish..... 311
Francqui and *Vander Vyrere*, on diabetic urine and glucose..... 253
Frankland, Dr. E., on the source of muscular power..... 31
French Pharmaceutical Congress at Paris, Aug., 1867..... 566
Fruit essences..... 238
Frezenius, Prof. C. R., on the deportment of medicinal alkaloids with reagents..... 27

Gentian, ferrated elixir of..... 306
Geographical relations of the lauraceæ..... 356
Gillespie, S. W., on hive syrup..... 127
Gladstone, Dr. J. H., on pyrophosphoric acid..... 419
Gleanings from the German Journals..... 316, 414
Gleanings..... 219
Glycerin, testing it for sugar and glucose..... 109, 117
Glycerin, table of solubilities in..... 150
Glycerin, alleged crystallization of..... 163
Glycerin, note on cheap..... 309
Glycerin in the arts..... 374
Glycerole of sumach..... 120
Glyconin, a new glycerole..... 181
Graham, Prof. J. J., on American opium..... 50
Grashoff, J., on a new photographic varnish..... 448
Groves, H., of Florence, on the culture of castor oil in Italy..... 57
Granular effervescent citrate of magnesia..... 65
Guy, Dr. Wm. A., on the sublimation of the alkaloids..... 432

Hadow, E. A., on nitro-prussides, their composition and manufacture.... 233
Hanbury, Daniel, notes on prescribing..... 340
" " on the cultivation of jalap..... 352
" " Burgundy pitch..... 544
Harley, John, M. D., on the preparations of conium..... 266, 358, 450
Hart, J. H., on a new mode of preparing mercurial ointment..... 332
Hassell, Dr. Arthur Hill, preparation of meat for food..... 445
Heinitsh, C. A., note on the cultivation of saffron in Pennsylvania..... 38
Henbane, English..... 557
Hesse, O., on rhœodina..... 122
Hive syrup..... 127
Hive syrup and dialysis..... 509
Horse-radish, iodinized preparations of..... 311
How to select India ink..... 220
Hop gardens of Sussex..... 77
Hypodermic injection, influence on toxicology..... 39
Hyoscyamia..... 219

Important discovery 374
India rubber varnish 86
Influence of nascent hydrogen on alkaloids 319
Influence of hypodermic injections on toxicology 39
Insect fabricators of iron 84
International Pharmaceutical Congress, 1867 280
International Pharmaceutical Congress at Paris, Aug., 1867 566
Iodide of ammonium, preparation of 21
Iodide of calomel 475
Iodided opodeldoc 120
Iodine, manufacture of 86
Iodine, solubility of, in tannin solutions 181
Iodinized syrup and elixir of horse-radish 311

Jalap, cultivation of 352
Jamieson, Thos. N., on aromatic sulphuric acid 201
Jockey club 370
Johnson, S. W., on native crystallized terpin 223
Joule, Dr. J. P., observations on the alteration of the freezing and boiling points in thermometers 420
Journal, our 87
Judkins' ointment 370

Kendall, R. P., M. D., on heroic doses of strychnia in chronic diarrhœa .. 438
Kerr's solution of pernitrate of iron 171
Kletinski, M., on fruit essences 238
Krummeck, Jacob, on osha and yerba mansa 202
Kinds of rhubarb in Russian commerce 212
Kubel, M. W., on coniferin, a glucoside contained in the cambium of the conifera 261

Lactic fermentations influenced by chalk 54
Large doses of strychnia 438
Laritz fir wool manufactures and preparations 188
Lauraceæ, geographical relations of the 356
Lead plaster 385
Liebig's extract of meat 143, 146
List of graduates of pharmacy, 1867 277
List of the class of Philada. Coll. Pharm., 1866–67 94
Limaille de fer porphyrisée 11
Liquor magnesiæ citratis 1, 196
Liquor ferri per acetatis 7
Liquor of villate 85
Liquid soap 415
Liquor bismuthi, notes on 141
Liquor opii sedativus, strength of 560
Loew, O., on the action of water on carbohydrates at an elevated temperature 334
Lycoperdon, tinctura 113

Macgowan, Dr. J., on the borax lake and sulphur banks of Napa Valley, California. 155
McCormac, Henry, M. D., on whole meal bread 174
Magnesiæ citratis solubilis 317
Maisch, Prof. John M., on liquor magnesiæ citratis 1
" " on liquor ferri acetatis 7
" " on the specific gravity of medicinal chloroform 72
" " on colchicia 97
" " on tests for the purity of glycerin 117
" " on carelessness in the collection of drugs 304
" " note on cheap glycerin 309
" " gleanings from the German journals 316, 414
" " on a permanent solution of pyrophosphate of soda and iron 388
" " review of Pharmacopœia Helvetica 207, 312, 529
Manufacture of iodine 86
Manufacture of sugar-coated pills and granules 199
Manufacture of salt 257
Manufacture of borax 339
Manufacture of caramel brown 447
Manufacture of starch 460
Markoe, Geo. F. H., notes on liquor bismuthi 141
Massachusetts College of Pharmacy 377
Mayet's diarrhœa syrup 418
Meconate of morphia, solution of 104
Medical matters 466
Medicated cocoa butter 348
Meeting of the American Pharmaceutical Association 472
Meissner, C. F., on the geographical relations of the lauraceæ 356
Mellor, I., Esq., note on thallium and magnesium alloys 442
Mercurial ointment, preparation of 332
Mill, Jas. W., on granular effervescent citrate of magnesia 65
Micro-chemistry of poisons, review of Wormley's 476
Minutes of the Philadelphia College of Pharmacy 276, 561
Minutes of the annual meeting of the American Pharm. Assoc., 1867 481
Mistakes in pharmacy 379
Modified Donovan's solution 182
Mudar, a substitute for ipecac in the treatment of dysentery 62

Narceia 111
Narceia, employment of 240
New suppository mould 121
New marking ink 319
New mode of preparing mercurial ointment 332
New styptic 367
New medical law in Maryland 378
New alkaloid in opium 421
New photographic varnish 448

New antiseptic for local use 467
Nicotina 27
Nitro-glycerin, poisonous character of 164
Note on alcoholized iron 11
Note on the preparation of iodide of ammonium 21
Note on the culture and preparation of castor oil in Italy 57
Note on the solution of citrate of magnesia 112
Note on the crystallization of glycerin 163
Note on lozenge cutting 206
Note on Spanish saffron 307
Note on cheap glycerin 309
Note on powdered castile soap 396
Note on thallium and magnesium alloys 442
Notes on liquor bismuthi 141
Notes on prescribing 340
Notice of exhibition of Amer. Pharm. Assoc 470
Noyes, Dr. H. D., on amblyopia produced by osmic acid 62

Obituary, Otto Carl Berg 191
" Edward Francois Frémy 192
" T. J. Pelouze 479
" Michael Faraday 576
" Nicholas-John-Baptist Gaston Guibourt 575
Observations on benzoinated ointments and cerates 349
Odontalgic drops of righini 418
Officers of the Amer. Pharm. Assoc. for 1867 488
Oil of bitter almonds 135
Oil of sesame 219
Oil of turpentine 386
Oil of lemon, adulterated 387
Ointments and cerates, benzinated 349
Osha, an aromatic root of New Mexico 202
Osmic acid causing amblyopia 62
Oxalate of iron, a new tonic 125
Ozone produced by plants 222

Pagenstecher, Dr., of Wiesbaden, on the use of yellow oxide of mercury ... 262
Pancoast's, Prof., beef tea 468
Paris Exposition 187, 565
Paris Exposition jurors 371
Parrish, Prof. Edward, on a new method of making pills on a large scale 12
" " " discourse on titles 239
Peake, Humphrey, M. D., on pilulæ metalorum et amarum 68
Pecholier and St. Pierre, on the poisonous boundou 124
Pepsin 469
Percentages on prescriptions 89
Pereia's materia medica, abridged 90
Perfumed or flower-scented glycerin 6
Permanent mass of pilulæ ferri iodidi 183

Permanent solution of pyrophosphate of soda and iron..... 388
Permanganate of potassa..... 320
Petroleum an insecticide..... 466
Phares, Dr. D. L., on viburnum prunifolium..... 259
Pharmaceutical items..... 5, 120
Pharmaceutical business, its management..... 33
Pharmaceutical notes..... 107
Pharmacy of the cinchonas 289, 398, 513
Pharmacopœia Helvetica.....207, 312, 529
Phosphates of iron, quinia and strychnia, syrup..... 177
Phenic acid, its manufacture and properties..... 461
Pile, Dr. Wilson H., on solution of acetate of ammonia..... 45
Pills, new method of making. 12
Pilulæ metalorum et amarum..... 68
Pith of sassafras—law case..... 372
Pithiest case on record..... 372
Plasma of oxide of zinc..... 418
Platinum, waste in the sulphuric acid manufacture..... 32
Poisoning by cyanide of potassium..... 84
Poisoning by strychnia; ext. cannabis indica in 254
Poisoning by bromine..... 333
Poisonous character of nitro-glycerin..... 164
Poisonous properties of the boundou of the Gabonese..... 124
Poisoning by decoction of poppy capsules..... 415
Porosity of caoutchouc..... 186
Polak, J. E., on assafœtida..... 351
Powdered castile soap..... 396
Powder for destroying rats..... 418
Preparation of iodide of ammonium..... 21
Preparation of the officinal oleo-resins by benzine..... 24
Preparation of fruit syrups..... 317
Preparation of pure silver.....166, 246
Preparation of deodorized tincture of opium..... 193
Preparation of medical tinctures..... 251
Preparation of sweet spirit of nitre..... 321
Preparation of meat for food..... 445
Preparations of conium maculatum.....266, 358, 460
Preservation of sulphuretted hydrogen solution in the laboratory 368
Preservation of sulphate of iron..... 183
Preservative against cholera 318
Prescription checks..... 6
Prescriptions—whose property are they?..... 472
President Stearn's address to the Am. Pharm. Association, 1867..... 485
Procter, William, Jr., note on "alcoholized" iron..... 11
" " note on ext. colocynth. alcoholic..... 15
" " solution of meconate of morphia..... 104
" " on testing glycerin for sugar and gluscose 109

William Procter, Jr., note on narceia 111
" " tinctura lycoperdon 113
" " on osha and yerba mansa 204
" " gleanings 229
" " report on the Paris Congress 561
Process for the estimation of resin in soaps 76
Propionic acid 82
Proceedings of the Massachusetts College of Pharmacy 380
Proceedings of the American Pharmaceutical Association, 1866 188
Professional education 374
Protiodide of mercury 318
Ptelea trifoliata 337
Purified oil of bitter almonds 135
Purification of quinoidine 272
Pulvis aromaticus 527
Pyrophosphoric acid 419

Quacks in Chicago 466
Quantity of fibrin separated from the blood 414
Quinine districts of the Andes 160
Quinoidine, purification of 272

Red phosphorus, crystallization of 83
Red sealing wax 370
Redwood, Theophilus, Ph. D., on the preparation of spirit of nitrous ether 321
Remarks on some chemical processes 137
Removal of nitric acid from sulphuric acid by charcoal 66
Report on scientific queries for 1867 502
Resin in soaps, estimation of 76
Resins for varnishes 181
Reynolds, J. Emerson, on oxalate of iron as a new tonic 125
Rhœadina 122
Rhubarb of present Russian commerce 213
Rhubarb, Moscovitic 216
Rhubarb, North-Chinese 216
Rhubarb, South-Chinese 217
Rhubarb, Bucharian 218
Rhubarb, English medicinal 551
Richardson, Dr. B. W., on a new styptic 367
Riederer, Ludwig, on hive syrup and on dialysis 509
Rittenhouse, Henry N., on substitutes for ether and alcohol in preparing the oleo-resins 24
Robertson, Abraham, on the use of spider's web as a styptic 67

Saffron, its culture in Pennsylvania 38
Saffron, notes on Spanish 307
Saururus cernuus 468
Separation of strychnia salts by carbolic acid 180

Separation of tin from arsenic 440
Sherlock, Thomas, on the manufacture of caramel brown 447
Silver, preparation of pure 166
Silvering on glass 350
Silk collodion 182
Science in the dairy 186
School of pharmacy 187
Sikey, William, on the removal of nitric acid from sulphuric acid by charcoal 66
" " on the action of alkalies upon the ferro- and ferri-cyanides of iron 176
Smith, A. W., on a visit to a Sussex hop garden 77
Smith, T. and H., on Kerr's solution of pernitrate of iron 171
" " on cryptopia 421
Soap plaster 386
Source of muscular power 31
Solution of nitrate of iron 171
Solution of citrate of magnesia 112
Solution of meconate of morphia 104
Soaps, estimation of resins in 76
Solution of acetate of ammonia 45
Solubility of iodine in tannin liquids 181
Southall, Alfred, on tinct. opii and liq. opii sedativus 559
Specific gravity of medicinal chloroform 72
Spider's web as a styptic 67
Spirit of lavender compound 512
Spirit of nitrous ether 321
Spongy platinum 185
Squibb, Dr. Edward R., letter relative to alcoholic extract of colocynth ... 15
" " on an improved formula for fluid ext. of buchu ... 129
" " pharmacy of the cinchonas 289, 398, 513
" " calx saccharatum, syrupus calcis 335
Stearns, F., the pharmaceutical business, &c 33
" " address to the American Pharmaceutical Association 485
Stas, Prof. J. S., on the preparation of pure silver 166
Standard thermometers 255
Steer, Justin, Ph. D., on Ptelea trifoliata 337
Styptic colloid 367
Substitutes for ether and alcohol in the oleo-resins 24
Sublimation of the alkaloids 538, 432
Sulphuric acid purified from NO^5 by charcoal 66
Sutherland, J., process for estimating resin in soaps 76
Sulphate of manganese 139
Sulphur banks in California 155
Sulphuret of carbon in petroleum 318
Superior glue 185
Sugar-coated pills and granules 193

Sugar in muscle..... 469
Summer courses..... 376
Strychnia, cannabis indica in poisoning by..... 254
Syrup of pepsin..... 184
Syrup of the phosphates of iron, quinia and strychnia.....177, 386
Syrupus calcis..... 335
Tea..... 320
Teething syrup of de la Barre..... 418
Testing glycerin for sugar and glucose..... 109
Tests for the purity of glycerin..... 117
Thallium and magnesium alloys..... 442
Thompson, Wm. B., on ferrated elixir of Gentian..... 306
" " on spirit of lavender compound..... 512
Tilden, William A., on purified oil of almonds..... 135
Tinctura lycoperdon..... 113
Tincture of chloride of iron..... 140
Tincture of opium purified..... 196
Tincture of opium, strength of..... 559
Third annual report of the Alumni of the Phila. College of Pharmacy... 380
Titration of tannin by glue..... 415

Use of spider's web as a styptic..... 67
Usher, Rufus, Esq., on English medicinal rhubarb and henbane..... 550

Valerian..... 70
Varnish, india rubber..... 86
Varnish, new photographic..... 448
Velpeau's black caustic..... 418
Viburnum prunifolium..... 259
Violet ink..... 370
Visit to a Sussex hop garden..... 77

War and insanity..... 467
Waring's practical therapeutics..... 92
Warner, Wm. R., on epsom salt in citrate of magnesia..... 397
Waste of platinum in sulphuric acid manufactories..... 32
Welding mixture..... 185
Wheat phosphates..... 107
Wheat grain, on the composition of..... 168
White liquid glue..... 319
Whole meal bread..... 173
Why not? a book for every woman..... 382
Wöhler, Prof., on the separation of tin and arsenic..... 440
Women as apothecaries..... 465
Writing and copying ink..... 370

Yerba mansa of New Mexico..... 202
Yellow amorphous oxide of Mercury..... 262

J. Roberts